

RGGI At One Year: An Evaluation of the Design and Implementation of the Regional Greenhouse Gas Initiative



February 2010

The Regional Greenhouse Gas Initiative (RGGI) is the nation's first mandatory greenhouse gas cap and trade system. After one full year of operation, including a series of successful carbon auctions, an evaluation of a real world cap and trade program in the United States is appropriate. For policy makers and the public alike, it is important to understand the logic behind RGGI's design and to evaluate program implementation so that lessons learned can inform the development of regional and national climate policy.

RGGI Profile:

- 10 States (ME, MA, NH, VT, RI, CT, NY, NJ, DE and MD)
- Applies to all fossil fuel-fired power plants 25 MW or greater
- Went into effect Jan 1, 2009
- Latest of 6 quarterly auctions conducted December 2, 2009
- Next auction March 10, 2010
- Initial regional cap is 188 million tons CO₂
- Cap is two-phase:
 - Stabilization at initial level for 2009-2014.
 - 2.5% reduction per year 2015-2018 for total 10% reduction
- Compliance period is 3 years; allowances equivalent to 2009-2011 emissions due March 1, 2012.

The evaluation provides graded assessments of program design and performance to date, followed by "notes" that provide additional contextual information and recommendations based on experience. Five key components of cap and trade are addressed:

- **Auctions** – how were auctions designed, and how successful have auctions been?
- **Funding** – what programs did states intend to support with allowance value, and have states followed through on funding commitments?
- **Offsets** – how was the offset mechanism designed, and how has it operated?
- **Cap Level** – was the emissions cap set accurately, and how does it relate to actual emissions?
- **Governance** – what organizational structures were created, and have they been effective?

Auctions

Design: Grade (A)

RGGI states decided to sell 87% of allowances in auctions open to any participant. Auctions ensure fair and transparent program design, while avoiding market distortion by awarding allowances to those who value them most. The design of regionally-administered auctions was informed by analysis of different

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Environment Northeast is a nonprofit organization that researches and advocates innovative policies that tackle our environmental challenges while promoting sustainable economic development. ENE is at the forefront of state and regional efforts to combat global warming with solutions that promote clean energy, clean air and healthy forests.

auction mechanisms by the University of Virginia, Resources for the Future, and the California Institute of Technology.¹

Implementation: Grade (A)

To date, over 171 million allowances have sold at six successful RGGI auctions, raising over \$494 million. The quarterly online auctions are conducted by the independent contractor World Energy Solutions, with public disclosure of results and proceeds returned to member states.

Note:

- *The decision to auction 87% of allowances marks a positive departure from free allocations in prior cap and trade systems, such as the EPA's Acid Rain Program and the European Trading System.*
- *RGGI has had minimal impacts on consumer prices. In 2009 RGGI allowances sold for an average price of \$2.91/ton, adding about 0.9% to retail electricity prices in New England² while raising revenue for strategic investments aiding in the transition to a clean energy economy.*

Funding

Design: Grade (A)

The emissions allowances at the heart of cap and trade are a new public resource, and RGGI states wisely chose to use allowance value to benefit consumers. Allowances confer the right to dispose of emissions in the public commons (the atmosphere), and during the design process states accordingly agreed to direct at least one-quarter of allowances to public benefit. However, based on economic modeling of various allowance allocations and a recognition that markets had changed since electricity restructuring, member states independently opted to direct two-thirds of allowance value to energy efficiency. The logic behind efficiency is straightforward. When consumers use energy more efficiently, demand for electricity declines, bringing down supply costs and power plant emissions. Lower emissions reduce demand for allowances, thus decreasing allowance prices and the overall program cost. Capturing the dual benefits of efficiency – lower supply costs and lower carbon costs – is one of RGGI's greatest achievements, and should ensure that costs remain low over time.

Implementation: Grade (B)

RGGI states have for the most part followed through on funding plans, but a number of states have deviated from commitments. To date, the vast majority of the \$494 million in RGGI funding is flowing to the originally designated uses. Approximately \$275 million is going to energy efficiency, which, based on past program results, will save electricity consumers over \$800 million.³

The pitfalls of budgetary politics have been exposed in Maryland and New York, where RGGI auction revenue is being diverted from planned efficiency and clean energy investments, and other states may be considering similar action. In April, Maryland transferred \$70 million in RGGI funding from efficiency investments to short-term rebates, and New York is using \$90 million of revenue to fill state budget

¹ *Auction Design for Selling CO2 Emissions Allowances Under the Regional Greenhouse Gas Initiative*, available at: http://rggi.org/docs/rggi_auction_final.pdf

² Calculated by multiplying the 2009 average RGGI allowance clearing price of \$2.91/ton by the New England marginal emissions rate of 1,004lbs/MWh (Independent System Operator – New England) to achieve a price impact of \$1.46/MWh, or 0.9% of the average 2009 New England retail electricity price of \$156.40/MWh (Energy Information Administration).

³ Based on efficiency program experience in MA, CT, ME and RI, where programs typically save about \$3 for every \$1 invested.

deficits. While these diversions will not undermine the RGGI cap, they run counter to commitments by RGGI states to minimum funding levels for clean energy investments, and demonstrate the vulnerability of long-term transformative programs to short-term political expediency.

Notes:

- *RGGI states' commitment to energy efficiency provides an important precedent for federal policy makers, who can establish similar cost controls through significant allocations to efficiency and consumer benefit in federal climate legislation*
- *RGGI states must avoid raiding RGGI funds and must implement established funding plans in order to deliver continuing consumer benefit and keep down the costs of the program*

Offsets

Design: Grade (A)

To a limited extent, RGGI allows power companies to purchase and use emissions “offsets,” which represent reductions in GHGs achieved outside of the electric sector. The emissions reductions must be real, surplus to business-as-usual (additional), verifiable, permanent, and enforceable. In determining the eligibility of offset project, RGGI used a standardized method that avoids the administrative complexity of evaluating projects on a case-by-case basis.

This standardized approach was developed in response to the inefficient operation of Kyoto Protocol-sanctioned Clean Development Mechanism (CDM), wherein certification of offset projects was overwhelming administrative capacity and significantly delaying offset development. Standards provide offset developers with the clarity required for investments and reduce administrative burdens. For example, rather than assessing the financial viability of each project in order to determine whether or not the project would happen without offset funding (as required in the CDM), RGGI requires demonstration that a project is not required by law, is not receiving certain types of public funding, and is not commonplace within the sector, as determined by percentage market penetration or other relevant metrics.

Implementation: Grade (**incomplete**)

Thus far no offset projects have been developed in RGGI, as allowance prices have been low due to lower than expected emissions and offsets have been unnecessary.

Note:

- *While other regional and federal cap and trade systems have not yet determined whether to adopt standards-based offset methodologies, RGGI has contributed significantly to the development of an effective, scalable offset mechanism.*

Cap Level

Design: Grade (C)

The RGGI cap level was initially set slightly higher than historical emissions by member states. At the time the cap level was negotiated, assumptions that have subsequently proved inaccurate were made about increases in electricity demand and other factors. For example, it was assumed that electric sector emissions would continue to grow at approximately 1% annually, and the cap was thereby set above historical emissions estimates. However, subsequent events, particularly a steep decline in emissions due to low natural gas prices, the economic downturn, and increased efficiency investments have combined

to produce emissions substantially lower than the cap. RGGI could have included mechanisms designed to adjust the cap to better reflect actual emissions at the start of the program (the program was finalized at the end of 2005 but did not start until the beginning of 2009), rather than only allowing for a consideration of cap adjustment as part of a wider program review scheduled for 2012.

Implementation: Grade (incomplete)

Available data suggest that emissions in the region fell approximately 25-30% below the RGGI cap in 2009.⁴ Low emissions were caused by decreased economic activity, successful efficiency programs, and – most significantly – increased utilization of low-emitting natural gas due to drops in the market price for natural gas. This decline in emissions is a good thing, not only because RGGI was designed to reduce emissions, but also because it demonstrates such a decline can happen rapidly, at low allowance prices, as lower carbon fuels become economical.

However, ensuring lasting emissions reductions in the electricity sector – which was the original intent of the program – depends on tightening the cap. Given that RGGI states were taking independent action, it is not surprising that a generous cap was established. However, the gross discrepancy between actual emissions and the cap (in 2009 RGGI states far exceeded the original, ten-year reduction goal for the program) illustrates the importance of setting targets based on accurate historical data and including mechanisms to adjust the cap if high emissions forecasts prove to be inaccurate.

States could correct for an overinflated cap by retiring allowances that do not sell above the auction reserve price, currently set at \$1.86 per allowance. Several states allow for retirement of unsold allowances,⁵ but regional coordination of allowance retirement would be needed to adjust each state's allowance supply proportionately. When the program is reviewed in 2012 member states have the opportunity to lock in emissions declines by: 1) reducing the cap level to better reflect actual emissions, and 2) codifying that unsold allowances be retired permanently. Taking these actions would ensure that the cap continues to work as intended by creating incentives for the electric sector to move toward cleaner fuels.

Notes:

- *The mere presence of a cap on emissions has precluded the development of new coal-fired power plants in the RGGI region, which is consistent with the program goal of shifting the region's supply mix toward cleaner fuels.*
- *During program review in 2012, RGGI states should reduce the cap level to reflect actual emissions and require retirement of allowances that do not sell for the auction reserve price.*
- *Draft federal climate legislation allows for cap level adjustment based on latest-available emissions data, and it is imperative that such a mechanism be utilized in order to set an appropriate cap.*
- *Federal legislation should also include a mechanism to reduce the cap level if emissions – and thus prices – are much lower than anticipated, such as an auction reserve price with allowance retirement.*

⁴ Based on an initial assessment by ENE of the first 3 quarters of 2009 emissions data from RGGI, Inc.

⁵ RGGI regulations in Delaware, Maine, Maryland, Massachusetts, New Jersey, and Rhode Island allow allowance retirement to varying degrees, while New Hampshire requires that unsold allowances be offered for sale at subsequent auctions and other states are unclear on the issue.

Governance

Design: Grade (A)

Spurred by inaction at the federal level, in 2005 a bipartisan group of governors from Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York and Vermont came together to sign a Memorandum of Understanding laying out the basic parameters of a regional cap and trade system. Over the next three years the program extended to Massachusetts, Rhode Island and Maryland, and all ten states passed consistent enacting regulations based on a cooperatively-authored Model Rule. States also promoted administrative simplicity by utilizing existing EPA requirements for emissions reporting and monitoring. This voluntary, coordinated action by RGGI member states represents a remarkable achievement, both for the system it created and for proving the political viability of sound climate regulation.

Implementation: Grade (A)

RGGI continues to be coordinated by an active group of Commissioners and staff from each of the RGGI states. Some program activities such as allowance tracking, auctions, and market oversight are implemented on behalf of each member state by RGGI, Inc., a non-profit corporation created by the member states. To date, all auctions have been conducted successfully, and emissions and market data has been quickly compiled and publicized by RGGI, Inc. An independent market monitor, Potomac Economics, has certified that auctions and the secondary market have been transparent and free of collusion. All of the tracking and oversight systems – such as the CO₂ Allowance Tracking System (RGGI-COATS) – were developed specifically for the RGGI program, and each has functioned effectively, setting important design precedents for regional and federal cap and trade systems.

Note:

- *The Government Accountability Office has gathered information on RGGI governance to help inform the development of federal climate legislation.*

Conclusion

The development and implementation of RGGI was a bold experiment that has yielded impressive results and important lessons for future cap and trade systems. States deserve significant congratulations for coordinating to create RGGI, and for following through with excellent implementation, particularly around the success of the auction markets – the first public carbon market auctions in North America. The investment of RGGI auction proceeds in high value energy efficiency programs is contributing to a transformation in the electric sector; shifting focus from supply to demand and saving consumers millions of dollars. RGGI created organizational and market structures ranging from emissions tracking to regional auctions to market oversight, setting important technical precedents that will smooth the way for future cap and trade systems. In a positive development, emissions have fallen sharply in the region, a phenomenon consistent with the program's goals. However, the incapacity to adapt the program to measured emissions has exposed one of RGGI's primary design flaws – an overly generous cap without an adjustment mechanism. Overall RGGI has been remarkably successful, both for the change it has promoted throughout the region and the lessons it can provide policy makers crafting similar cap and trade systems.

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