

ANALYSIS OF SURPLUS EMISSION ALLOWANCES IN THE REGIONAL GREENHOUSE GAS INITIATIVE (RGGI) AND STATE CONTROL OF THE SURPLUS

December 30, 2011

INTRODUCTION

As the states participating in the Regional Greenhouse Gas Initiative consider improvements to the program as part of their 2012 review, the states are considering ways to eliminate or tighten the slack in the program's emissions cap. In order to facilitate consideration of the options by state officials and stakeholders, the Pace Energy and Climate Center has prepared this analysis of expected emissions from RGGI units during the first compliance period (2009 to 2011) as well as the status of surplus allowances.¹ We conclude that the states control the disposition of the vast majority of surplus allowances currently in existence. Elimination of the state-controlled surplus would be an important first step toward making the RGGI cap binding.

THE SURPLUS ALLOWANCE POOL AND WHO CONTROLS IT

As illustrated in Figure 1, for the first compliance period (2009-2011), the RGGI states agreed to a total cap of 564,230,928 short tons of CO₂ (1 short ton=1 allowance). During the same 3-year period, power plants in the region emitted approximately 384,866,265 short tons, and thus only require that number of allowance in order to be in compliance. This translates to 179,364,663 surplus allowances, or nearly 32% of the total number created by the RGGI states. Figure 1 also shows who controls the surplus allowance pool. Of the 32% of the total allowance pool that is surplus, 17% of it is currently held by private parties who purchased the allowances at auction. The remaining 83% of the surplus pool remains in the hands of state regulators.²

¹ "Surplus allowances" means the allowances in existence that are not needed to meet compliance obligations (i.e. actual emissions) in the first compliance period. Some amount of surplus allowances is to be expected in a properly functioning cap-and-trade program, because over-compliance leads to a "bank" of allowances that can be sold in later years. When the pool of surplus allowances is too large, however, supply of allowances greatly exceeds demand and allowance prices will reflect that over-supply.

² Environment Northeast (ENE) has done an excellent job of keeping track of and extrapolating the basic trend data on RGGI plant emissions and corresponding

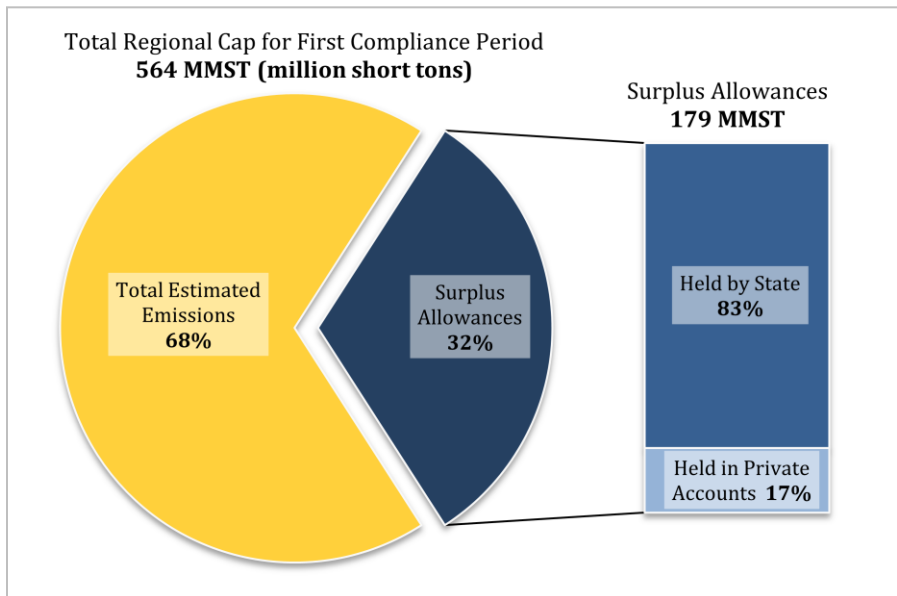


Figure 1.

Total RGGI allowances created for the first compliance period (2009-2011) compared to actual emissions for the same period; share of surplus allowances in state and private control

DISCUSSION

State control over the lion's share of the surplus allowance pool means state regulators can cancel, retire or eliminate much of the RGGI allowance surplus for the first compliance period while leaving in play the significant number of surplus allowances in private hands. Eliminating the state-controlled surplus could put the states in a much better position as they consider other needed changes to the RGGI program during the 2012 program review. The quantitative analysis underpinning these conclusions follows.

As illustrated in Figure 1 and detailed more specifically in Figure 2 below, substantially more allowances have been created for the first compliance period (2009-2011) than are needed by electric generators to "cover" their CO₂ emissions during this period. Several unexpected and uncontrollable market factors led to this

allowance allocations. See Environment Northeast, RGGI Emissions Trends Report, May 2011: http://www.ene.org/public/resources/pdf/ENE_RGGI_Emissions_Report_110502_FINAL.pdf

situation, including especially the extremely low price of natural gas, and the resulting displacement of coal by gas.³

This paper estimates the number of allowances that are currently held by private parties.⁴ These allowances held by private parties were acquired either through auctions or through the individual RGGI States' Special Approval Programs.⁵ Having estimated the number of allowances in private accounts, we compare that number to the estimates of total CO₂ emissions for the three years. Pace estimates that CO₂ emissions for RGGI for the first compliance period (2009-2011) will total about 384,866,265 tons of CO₂.⁶

In Figure 2 we can clearly see the quantitative relationship among the most critical factors: the overall cap, the level of emissions (which will be used to retire allowances), the private and public holdings of allowances and the distribution of the surplus (allowances in the cap not needed for compliance). Once again, this demonstrates that the RGGI States are clearly in control of the vast bulk of surplus allowances and therefore can "make the problem go away" in a fairly direct manner—retiring their surplus allowances.

Table 1 also shows that the RGGI States can solve most of the existing RGGI allowances surplus by retiring the allowances they still hold. But Table 1 focuses on the relative holdings of the different states.

Although the RGGI cap for this period is 564,230,928 tons (a surplus of 179,364,663 tons or 32% of the cap), only about 416,197,704 allowances have actually been sold or transferred to private parties. The states still hold the remaining 148,033,224, or

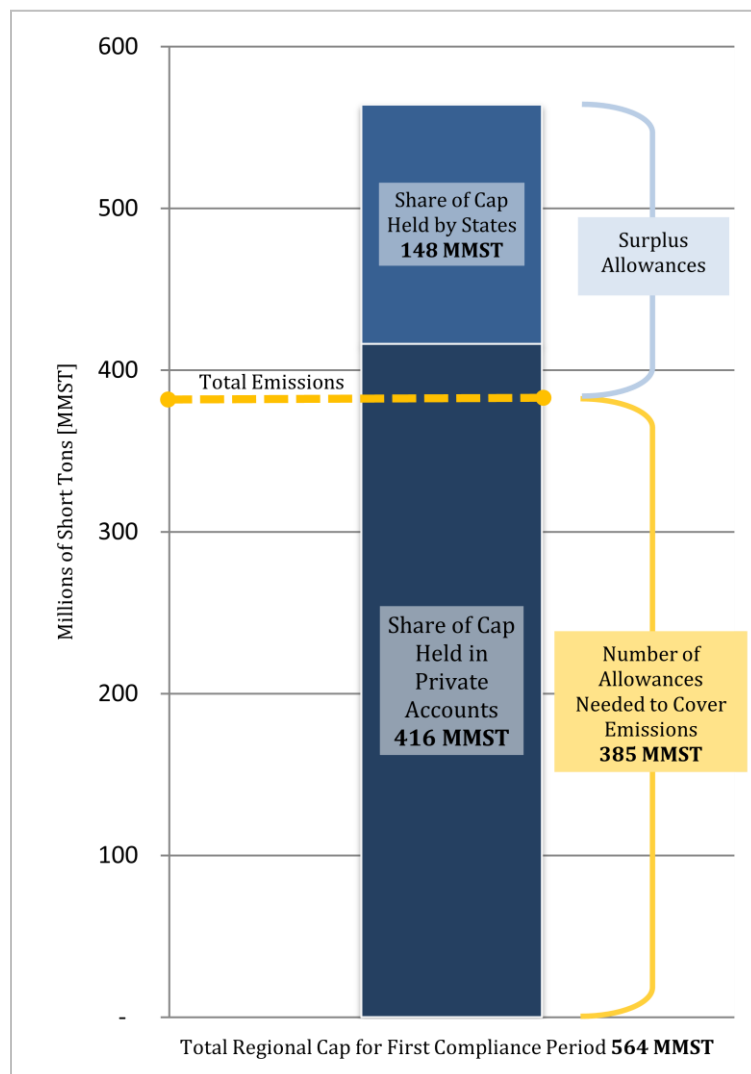


Figure 2.
The Total RGGI First Compliance Period Cap, Holdings by Private Parties and by the States, Emissions Level and Distribution of Surplus between Public and Private Holdings

just under 83% of the surplus allowance pool. It is noteworthy that the four largest states (Connecticut, Maryland, Massachusetts and New York) all hold very similar percentages (22% to 26%) of their total allowance budgets for the first compliance period. Were these large states able to agree among themselves to retire their surplus allowances—along with the assumed retirement of New Jersey's surplus allowances—most of the RGGI current over allocation problem would be resolved.

³ For the definitive analysis of these factors see "Relative Effects of Various Factors on RGGI Electricity Sector CO₂ Emissions: 2009 Compared to 2005: A Draft White Paper – 11/2/10", prepared by the New York State Energy Research and Development Authority and released by RGGI, Inc at: http://rggi.org/docs/Retropective_Analysis_Draft_White_Paper.pdf

⁴ All RGGI allowances actually remain in the hands of RGGI regulators always. Unlike stock or bond certificates, RGGI allowances are purely "virtual" entities. When one buys allowances, they are simply credited to one's account in the RGGI CO₂ Allowance Tracking System (RGGI COATS). When one sells allowances to another party, they are transferred to that entity's COATS account. So all RGGI allowances sold at auction or transferred through the RGGI States' Special Approvals programs to private parties, are always an electronic bookkeeping transaction crediting a private party's RGGI COATS account with the allowances.

⁵ The RGGI states were free to sell or otherwise distribute their apportionments (shares) of the total RGGI cap as they saw fit within some fairly broad conditions. See the RGGI MOU (<http://rggi.org/design/history/mou>). The "Special Approvals" programs vary from state to state but include such categories as early reduction allowances for regulated entities that reduced their CO₂ emissions before the RGGI program commenced; free allowances for some generators with long-term contracts that did not anticipate RGGI; free allowances for some "impacted" industrial firms that owned regulated facilities; set asides of a limited number of allowances for sale at a set price if RGGI auctions cleared above a threshold level; set asides for voluntary renewable energy programs; and several others.

⁶ 2011 Emission estimates were calculated using ENE Q1-3 emissions data for 2009, 2010 and 2011 and ENE annual emissions data for 2009 and 2010. The calculated average change per state between the Q1-3 data and the annual data for 2009 and 2010 was used with the Q1-3 data for 2011 to generate an estimate of the 2011 annual emissions.

Table 1.

Summary of RGGI First Compliance Period (2009-2011) Allowances:
Number Still Held by the States and Number Held by Private Parties

	Total Allowance Budget for the First Compliance Period (2009-2011)	Allowances Held by Private Parties 12/31/2011	Allowances Still Held by State	% of Total Allowance Budget Still Held by State
CT	32,085,108	23,953,944	8,131,164	25%
DE	22,679,361	9,955,747	12,723,614	56%
MA	79,980,612	62,042,622	17,937,990	22%
MD	112,511,949	82,844,205	29,667,744	26%
ME	17,846,706	11,799,552	6,047,154	34%
NH	25,861,380	15,444,962	10,416,418	40%
NJ	68,678,190	52,656,318	16,021,872	23%
NY	192,932,415	148,377,540	44,554,875	23%
RI	7,977,717	6,245,691	1,732,026	22%
VT	3,677,490	2,877,123	800,367	22%
RGGI Total	564,230,928	416,197,704	148,033,224	26%

Finally, it is important to examine the status of allowances associated with the States' Special Approvals programs. All states, save Vermont which auctions all of its apportionment, have these programs and all use them somewhat differently. Of the total first compliance period cap of 564 tons, about 62 tons were set aside for the Special Approvals Programs. As of the end of 2011, the COATS accounting is showing 23 million have been given out or sold at a discount by the states. This leaves 39 million in State Accounts. Although some of these first compliance period allowances may still need to be distributed according to the terms of the States' programs, it seems fair to conclude that the bulk of them will remain in State hands, and could therefore be considered for retirement as well.

This overall analysis shows that the RGGI market design was more resilient and effective than many market analysts have given it credit for: by having a reservation price that kept allowances from being sold 'on the cheap' and in large numbers, and by having an intelligent market where the market participants and regulated entities had reasonably good data available for carefully watching both total emissions from all

sources (demand for allowances) relative to the cap (largest possible supply), the market simply declined to purchase more than about an 8% excess as an advance portfolio for use in the second compliance period (2012-2014).⁷ The reservation price worked to limit the potential negative effect of a non-binding cap, although it could do nothing to prevent the inevitable bottoming out of the price to that floor.

In any case, it is clear that the RGGI states can take steps to remove the bulk of the surplus allowances they control. The Massachusetts Department of Energy Resources Staff proposal released on December 22, 2011 strikes precisely to this point:

"Staff recommends that DOER retire the 16,831,266 unsold RGGI allowances from

the First Compliance Period held by Massachusetts, contingent upon agreement from the other participating states committing to similarly retire or hold unsold First Compliance Period allowances held by their respective states. This will allow a clean slate for the participating states to undertake program review in 2012 and consider a potential redesign of the RGGI program, to better achieve the long-term goals set forth in the RGGI MOU." [Comments are due to the Massachusetts RGGI Auction Advisory Committee by January 5, 2012]⁸

CONCLUSION

This analysis reveals that 83% of what has been referred to as the "RGGI over-allocation" for the first compliance period is in the hands of state regulators. As state leaders begin their 2012 program review, RGGI states will need to retire these surplus allowances as well as taking additional steps to make the RGGI cap binding. As Thompson Reuters Point Carbon summarized in their RGGI presentation: "Over-allocation can only be addressed by combination of two actions from regulators: Withhold unsold allowances AND lower the cap [their emphasis]."⁹

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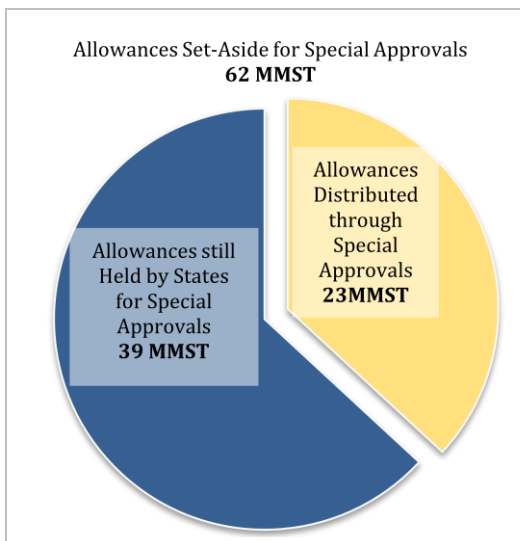


Figure 3.
RGGI Allowances Set-Aside for Special Approvals: Number Still Held by States, and Number Distributed to Private Parties

⁷ RGGI allowances can be "banked" for use in later compliance periods. In addition to the 31,331,439 first compliance period allowances held by private parties, they also have bought 17,920,296 "future period" allowances that were offered in auctions over the past two years.

⁸ Available at: <http://www.mass.gov/eea/docs/doer/rggi/unsold-allowances-memo.pdf>

⁹ Olga Chistyakova, Thompson Reuters Point Carbon presentation, "Reflections on 2012 RGGI Review", RGGI Stakeholder Meeting, September 19, 2011 in New York City. http://www.rrgi.org/design/program_review/materials_by_date