

REGGI RENEWED: REFORMING

4. ASSESSING THE IMPACT OF THE NEW RULEBOOK FOR THE POST-2020 PERIOD

SINCE THE FIRST Regional Greenhouse Gas Initiative (RGGI) auction was held in 2008 the program has been a leading example of what is possible in the United States. It became the first mandatory cap-and-trade program in the US to limit carbon dioxide from the power sector.

The RGGI program is actually nine distinct state-based programs that share an auction platform and registry, under a single 'cap' which is the total of the individual state carbon budgets. Each state has its own legislative and/or rulemaking process to implement the program and makes its own decisions on what to do with the proceeds from the auctions. In a couple of the states (Maine and New Hampshire) the legislature retains considerable authority over the operation of the program and in others, the program is directed through rulemaking.

In all cases the day-to-day operation of RGGI, and the auction process, is managed by RGGI Inc. a New York-based non-profit set up by the states to run the program. RGGI Inc. and its staff operate the auctions, hire the market monitor, manage the CO2 Allowance Tracking System (RGGI COATS) and distribute auction revenues to the states after each auction based on each states' allocation of allowances under the cap.

NOTABLE DESIGN FEATURES

Much has been written about RGGI in the past decade, and this article isn't designed to cover all the technical aspects of RGGI,

but there are some design features that make RGGI stand out in the emissions trading world.

The first, and most significant, is that from the first auction almost all the RGGI allowances have been auctioned - very few have been freely allocated. In the initial model rule, the document each state worked from to come up with version of the RGGI program, the states had agreed that at least 25% of the allowance proceeds would be used for 'public benefit'. A decision that also meant that at least some of the allowances would have to be auctioned rather than given away to existing emitters. RGGI was able to learn from some of the early challenges in the EU ETS – and was also influenced by the regional nature of the electricity markets in the northeast U.S.

Today RGGI stands out as the only carbon cap-and-trade program that auctions almost all of its allowances.

HAS REGGI BEEN EFFECTIVE?

Since 2008 the RGGI region has seen a 51% reduction in emissions from the power sector, while the states' economies have grown by 30%.¹ Attributing the reductions to any one event or program is complex, and certainly there have been

multiple contributing factors, including fuel switching, warmer winters, and increased efficiency. One third party study has come to the conclusion that RGGI has been the most significant contributor to the emissions decrease.²

In addition to the billions of dollars in revenue and thousands of job-years generated by RGGI in the region, analysis from Abt Associates found that improved air quality brought about by reduced emissions has prevented thousands of asthma attacks and reduced medical expenses by \$5.7 billion.³

The states have agreed to reduce the cap at each program review to address challenges with oversupply of allowances and the large number of banked allowances available in the system. These adjustments have helped raise the price of allowances (revenue to the states) as well as bring the cap more in line with actual emissions.

THE FUTURE

The RGGI states have committed to periodically reviewing the rules of the program, and the cap. The first program review in 2012 led to a 45% reduction in the cap and some other technical, but significant, tweaks to the model rule, such as adding a cost containment reserve.

A second program review was carried out in 2016-17 and led to a new model rule which was presented by RGGI, Inc. in December 2017. The new model rule, which again lowers the cap, will serve as

a guide to the RGGI states as they update their individual statutes and regulations over the coming year.

RESULTS OF THE 2016-2017 RGGI PROGRAM REVIEW

Following a two-year process of public hearings, negotiation, and energy sector modeling, the nine RGGI states agreed on a set of program modifications. These changes, described in more detail below, include extending the cap through 2030, a commitment to conduct an adjustment for banked allowances, modifications to the Cost Containment Reserve, and the creation of an Emissions Containment Reserve.⁴

EXTENDING AND TIGHTENING THE CAP THROUGH 2030

The current RGGI cap declines by 2.5 percent per year through 2020, at which point it will be 78.2 million short tons. The new RGGI cap will begin in 2021 at 75.1 million tons and decline to 54.7 million tons in 2030, representing an annual decline of just over 3 percent, achieving a 59 percent reduction from the 2008 emissions level.

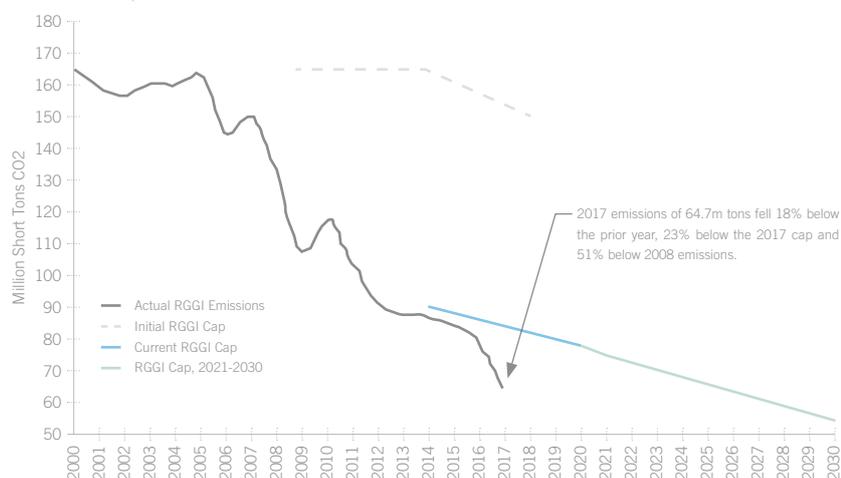
ADJUSTMENT FOR BANKED ALLOWANCES

The RGGI states agreed to adjust future cap levels downward to account for a growing surplus of allowances, building on a precedent set during the previous program review. As shown in Figure 1 (above), actual emissions have consistently fallen below the RGGI cap, resulting in the accumulation of a substantial allowance surplus.

In order to prevent this bank of allowances from undermining the program's future environmental performance, the RGGI states developed a novel solution: gradually eliminate the allowance surplus by adjusting future cap levels downward (i.e. offer fewer allowances for sale). Through the previous program review, the RGGI states adjusted 2014-2020 cap levels downward to account for the

FIGURE 1:
RGGI Cap and Historic Emissions⁵

DATA SOURCE: RGGI, INC.



140 million-ton allowance surplus that had accumulated to that point, shown in Figure 2 (below).

Through the most recent program review, RGGI member states have committed to conduct another allowance adjustment after 2020, this time accounting for allowances banked from 2014-2020. The 2021-2025 cap levels will be adjusted downward to reflect the yet-to-be-determined allowance surplus through 2020. As shown in Figure 3 (next page), the surplus is currently 52 million allowances, projected to rise to 67 million by 2020. As a result, the allowances offered in years 2021-2025 will likely be 12 to 15 million fewer than the stated cap level each year.

DYNAMIC PRICE AND SUPPLY CONTROLS

The RGGI states created a Cost Containment Reserve (CCR) during the

previous program review to protect against allowance price surges. If auction clearing prices rise above a predetermined trigger price (\$4 in 2014, \$10 in 2017, and rising annually by 2.5% thereafter), up to 10 million additional allowances become available for purchase.

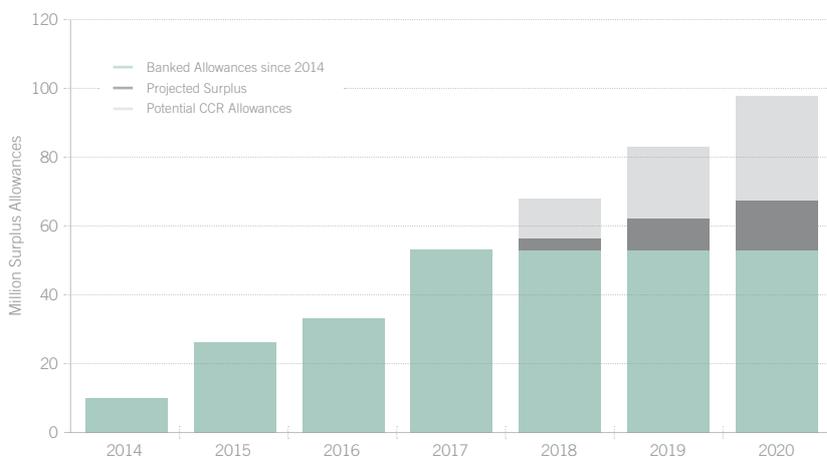
Beginning in 2021, the available quantity of CCR allowances will be reduced from 10 million to 10% of the cap (7.5 million in 2021, falling to 5.5 million in 2030), and the price trigger will increase from \$10.77 in 2020 to \$13 in 2021, rising annually by 7% thereafter.

As a complement to the CCR, seven of the nine RGGI states have agreed to implement an Emissions Containment Reserve (ECR) beginning in 2021 (Maine and New Hampshire do not plan to participate). Through the ECR, states would withhold allowances from circulation when auction clearing prices fall below predetermined trigger prices, helping the states to secure

FIGURE 2:
RGGI Cap and Adjusted Cap Levels (million short tons)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | TOTAL |
|--------------------------|------|------|------|------|------|------|------|-------|
| RGGI Cap | 91 | 88.7 | 86.5 | 84.3 | 82.2 | 80.2 | 78.2 | 591.2 |
| RGGI Adjusted Cap | 82.8 | 66.8 | 64.6 | 62.5 | 60.3 | 58.3 | 56.3 | 451.6 |
| Adjusted | 8.2 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 21.9 | 139.6 |

FIGURE 3:
Current and Projected Allowance Surplus



low cost emissions reductions. Up to 10% of the allowance budget from the participating states will be withheld from an auction if prices fall below \$6 in 2021, with that trigger rising by 7% annually through to 2030.

PROJECTED IMPACTS FROM RGGI REFORMS

Modeling conducted by ICF projects that the RGGI reforms will reduce cumulative CO2 emissions by 152 million tons through 2031, relative to the reference case.⁶ These CO2 reductions will coincide with the following impacts, relative to the reference case:

- \$1.28 billion in health benefits from reduced SO2 and NOX emissions;⁷
- Slight increases in residential, commercial and industrial monthly electric bills (0.03%, 0.08% and 0.03% respectively);⁸
- The net addition of 34,397 job years;⁹ and
- \$2.79 billion in net economic benefit.¹⁰

ADDITION OF NEW STATES

Processes are underway in both New Jersey and Virginia to begin participating in the RGGI market. The current member states have expressed support for the addition of new participants, noting the improved economic efficiency that would be achieved through a broader trading market.¹¹ In order to participate in the RGGI market, new participants would need to ensure compatible program design and comparable stringency.

NEW JERSEY, one of the ten original RGGI states, is poised to re-enter the program. Governor Christie removed the state from RGGI at the end of 2011, but newly elected Governor Murphy has issued an Executive Order instructing agency officials to “immediately begin negotiations with current RGGI member states to determine how to best reenter.”¹² The New Jersey Department of Environmental Protection is expected to begin drafting RGGI-enabling regulation (mirroring the updated RGGI model rule) shortly.

VIRGINIA, In May 2017, then-Governor McAuliffe issued an Executive Directive requiring the Virginia Department of Environmental Quality to draft “trading-ready” regulations to reduce CO2 emissions from power plants. Those draft regulations have since been published,¹³ a public comment period will run through April, and newly elected Governor Northam is advancing the Commonwealth’s progress towards RGGI market participation starting in 2020. Virginia is unlikely to begin as a full RGGI participant, but would implement a program that is nearly identical to RGGI and distribute allowances that are fully fungible with allowances from the current RGGI states.

MARKET IMPACTS OF RGGI EXPANSION

While it is expected that New Jersey and Virginia will implement regulations that meet the requirement of compatible program design (e.g. rate of cap decline, flexibility mechanisms, etc.), the question of “what constitutes comparable stringency?” remains to be answered. The initial allowance budgets for new participating states have yet to be agreed upon, but will play a large role in determining the market impacts of RGGI expansion¹⁴.

Virginia’s draft regulations propose a starting cap of 33-34 million tons in 2020, while NRDC and other organizations have delivered modeling suggesting that 30-32 million tons would be a more appropriate starting point. New Jersey has yet to propose a 2020 starting point, but recent emissions suggest a likely initial cap range from 15-20 million tons. Adding the estimated allowance budgets from these two states to the 2020 RGGI cap (78.2 million tons) would represent a 57-69% increase in the size of the RGGI market.

(1) Outpacing the Nation: RGGI’s Environmental and Economic Success, Jordan Stutt, Acadia Center, September 2017. http://acadiacenter.org/wp-content/uploads/2017/09/Acadia-Center_RG-GI-Report_Outpacing-the-Nation.pdf. (2) Why Have Greenhouse Emissions in RGGI States Declined? An Econometric Attribution to Economic, Energy Market, and Policy Factors, Brian Murray and Peter Maniloff, Duke Nicholas Institute, August 2015. <https://nicholasinstitute.duke.edu/environment/publications/why-have-greenhouse-emissions-rggi-states-declined-econometricattribution-economic>. (3) Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2009-2014, Michele Manion, et al, Abt Associates, January 2017. <http://abtassociates.com/RGGI>. (4) For more information on the program review, see: <https://rggi.org/program-overview-and-design/program-review>. (5) Emissions data provided by RGGI, Inc.: <https://rggi.org/allowance-tracking/emissions>. (6) Stronger RGGI Cuts Projected to Be Achieved at Low Cost, Bruce Ho, NRDC, September 2017. <https://www.nrdc.org/experts/bruce-ho/stronger-rggi-cuts-projected-be-achieved-low-cost>. (7) Outpacing the Nation: RGGI’s Environmental and Economic Success, Jordan Stutt, Acadia Center, September 2017. http://acadiacenter.org/wp-content/uploads/2017/09/Acadia-Center_RG-GI-Report_Outpacing-the-Nation.pdf. (8) https://www.rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Customer_Bills_Results_Overview_09_25_17.pdf. (9) https://www.rggi.org/sites/default/files/Uploads/Program-Review/12-19-2017/REMI_2017_12_19.pdf. (10) Ibid. (11) RGGI States Presentation: Considerations for Virginia Participation, RGGI, Inc., January 2018. https://rggi.org/sites/default/files/Uploads/Participation/2018-01-26-Meeting/RGGI_Presentation_2018_01_26.pdf. (12) Governor Murphy Signs Executive Order Directing New Jersey to Reenter the Regional Greenhouse Gas Initiative, Office of Governor Phil Murphy, January 2018. http://www.nj.gov/governor/news/news/562018/approved/20180129a_ao.shtml. (13) Full text of Virginia’s draft regulations available at: <http://www.townhall.virginia.gov/L/ViewXML.cfm?textid=12246>. (14) Joint Stakeholder Comments Regarding Virginia’s Potential Participation in the RGGI Market, February 2018. https://rggi.org/sites/default/files/Uploads/Participation/2018-01-26-Meeting/Comments/Joint_Comments_VA_Participation.pdf.