



## Why the RGGI States Should Model a 5% Annual Cap Reduction in the 2016 Program Review (May 2016)

In 2016, the RGGI states are considering the future of their pioneering program to cut carbon pollution in the power sector – specifically, where to set RGGI’s 2021 to 2030 carbon cap. Currently, the states propose to model two scenarios: (1) minimum compliance with EPA’s Clean Power Plan (“EPA CPP Targets”); and (2) a reduction in the cap of 2.5% per year (“2.5% Scenario”). These scenarios make sense as part of a broader analysis of potential cap levels; however, on their own, they represent a narrow universe of potential actions. The first scenario would halt RGGI’s ambition after 2020, while the second would require a rate of reduction less than what the power sector has achieved thus far.

Prudent policy-making would have the states model a wider range of cap scenarios than they have proposed. The purpose of modeling is to develop robust data to inform a reasoned policy decision. Too narrow an analysis could frustrate this goal, leave additional benefits on the table, and possibly hinder the states’ abilities to achieve 2030 and 2050 climate targets most cost-effectively. RGGI is a central pillar of the states’ efforts to address climate change. It is important to get the analysis right.

Stakeholders have recommended that the RGGI states model a cap reduction of 5% per year between 2021 and 2030 in addition to the states’ initial proposals.<sup>1</sup> This two-pager explains the rationale for modeling a 5% Scenario, which is consistent with both the current emissions trajectory in RGGI and analysis of the greenhouse gas (GHG) emission reductions needed to achieve the states’ 2030 climate targets. Modeling a 5% Scenario is intended to be informative; it would not obligate the states to take a particular action. This is clear from the fact that the states have already proposed to model two scenarios that would produce different outcomes, at least one of which will not be the final policy. Nor does modeling a 5% Scenario require any specific action beyond 2030. As proposed, the 5% Scenario would evaluate this cap trajectory only through 2030. We assume that future cap levels and trajectories will be determined in future program reviews.

In 2012, the states modeled four cap scenarios. Modeling additional scenarios in 2016 would similarly give the states more information as they determine the final cap. This analysis should ideally assess both potential upper and lower bounds for the 2030 cap. From an analytical point of view, the 5% Scenario is a core scenario that describes the rate of reductions already being achieved in RGGI, and is a classic “moderate” or middle case. The 2.5% Scenario would be considered a lower bound, while an upper bound case would examine a cap reduction greater than 5% per year.

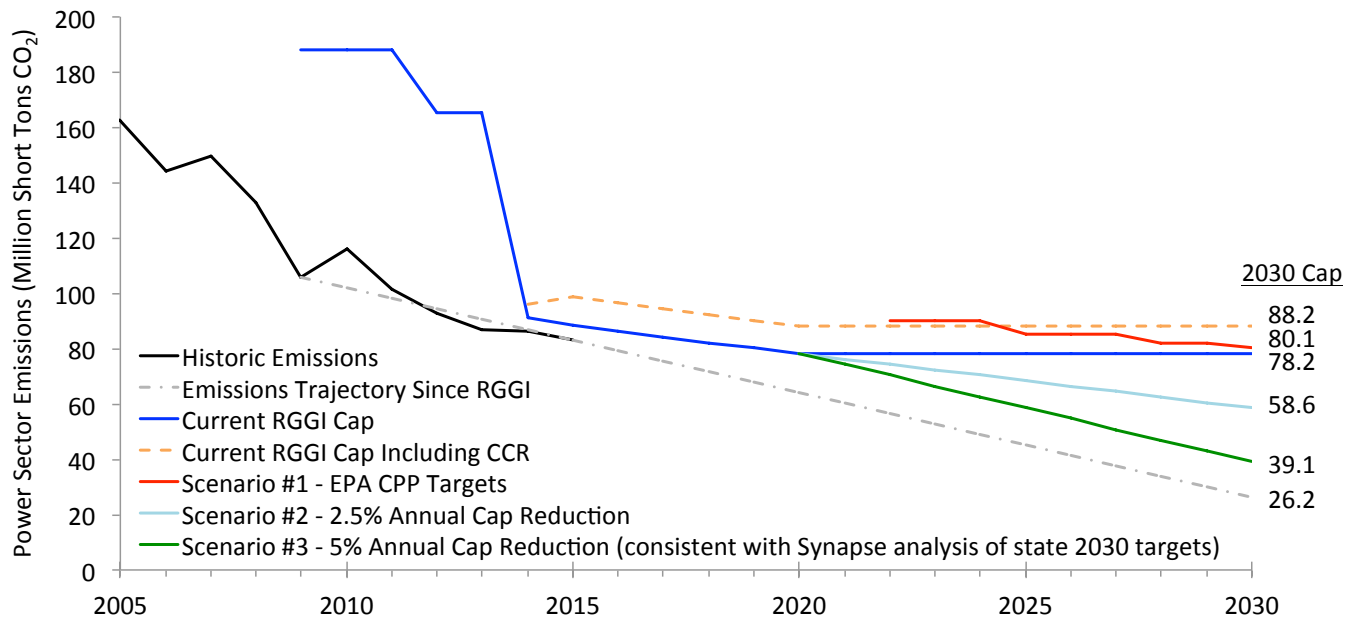
### *A 5% Annual Cap Reduction Scenario Is Consistent with RGGI’s Current Emissions Trajectory*

Since RGGI launched in 2009, power sector carbon pollution has fallen by nearly 4 million tons per year.<sup>2</sup> As shown in the figure on the next page, this is faster than the rate mandated under the RGGI cap (depicted by the darker blue line), which declines by an average of 2.1 million tons of CO<sub>2</sub> per year through 2020. The RGGI states’ proposed 2.5% Scenario (light blue line) would reduce carbon pollution by 1.95 million tons per year starting in 2021, half the rate of reductions achieved under RGGI thus far. The proposed 5% Scenario (green line) would reduce the RGGI cap by 3.9 million tons of CO<sub>2</sub> per year, consistent with the current rate of CO<sub>2</sub> reductions in RGGI, leading to a 2030 cap of about 39 million tons of CO<sub>2</sub>. While the 5% Scenario is more ambitious than what the states have proposed to model, it is still conservative relative to current emission trends in RGGI (dashed gray line).

<sup>1</sup> See, e.g., comments filed by environmental and public health groups on February 19, 2016 ([http://www.rggi.org/docs/ProgramReview/2016/02-02-16/Comments/Health\\_Environmental\\_Joint\\_Comments.pdf](http://www.rggi.org/docs/ProgramReview/2016/02-02-16/Comments/Health_Environmental_Joint_Comments.pdf)).

<sup>2</sup> In 2009, power plants in RGGI (excluding NJ, which is no longer a member), emitted 106 million tons of CO<sub>2</sub>. Emissions were 83 million tons of CO<sub>2</sub> in 2015, for an average decline of 3.8 million tons of CO<sub>2</sub> per year since the program began.

## RGGI Emissions History and Cap Scenarios



### *A 5% Annual Cap Reduction Scenario Is Consistent with the States' 2030 Climate Targets*

All of the RGGI states have adopted 2030 climate targets, with most aiming to reduce economy-wide GHG emissions by 35-45% by 2030. Achieving these targets will require further cuts in power sector carbon pollution. While the states' proposed 2.5% Scenario would continue to reduce emissions, this rate of reduction may not be enough to achieve the states' climate targets. Synapse Energy Economics has developed a least-cost pathway for the RGGI states to meet a 40% economy-wide reduction in GHG emissions across the region by 2030.<sup>3</sup> According to this analysis, the power sector would need to achieve almost half of the GHG emission reductions required between now and 2030.

Under the least-cost pathway, the RGGI cap would be 39 million tons in 2030, the same level as under the proposed 5% Scenario. Combined with measures in the transportation, building, and industrial sectors, Synapse found that a 39 million ton RGGI cap in 2030 would generate significant economic benefits, including consumer energy bill savings of \$25.7 billion and an average of 58,400 new jobs per year. Synapse's analysis is consistent with other studies that have similarly concluded that the power sector must reduce emissions further and faster than other sectors to achieve economy-wide climate targets cost-effectively. For example, in its analysis of the Waxman-Markey bill, which would have established national GHG emission reduction targets of 42 percent by 2030 and 83 percent by 2050, EPA concluded that "The majority of the cost-effective reductions come from the electricity sector."<sup>4</sup>

The RGGI states' full pathways to meet their 2030 climate targets will require steps beyond strengthening RGGI. However, it is clear that the power sector must continue to play a significant role over the next decade if the states are to achieve these targets. Absent further state analyses, the Synapse report provides a useful look at the most cost-effective pathway for the states to meet their 2030 climate targets, and provides strong support for modeling the 5% Scenario in the current RGGI program review.

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<sup>3</sup> *The RGGI Opportunity 2.0* (Mar. 4, 2016), [http://www.synapse-energy.com/sites/default/files/RGGI\\_Opportunity\\_2.0.pdf](http://www.synapse-energy.com/sites/default/files/RGGI_Opportunity_2.0.pdf).

<sup>4</sup> *Supplemental EPA Analysis of the American Clean Energy and Security Act of 2009* (Jan. 29, 2010), [https://www3.epa.gov/climatechange/Downloads/EPAactivities/HR2454\\_SupplementalAnalysis.pdf](https://www3.epa.gov/climatechange/Downloads/EPAactivities/HR2454_SupplementalAnalysis.pdf), slide 66.