

The Regional Greenhouse Gas Initiative: How Virginia can Reduce Climate Pollution, Comply with Federal Standards, and Generate New and Significant Funds

Introduction

The East Coast of the United States is threatened by an Atlantic Ocean that is rising three to four times faster than the global average, and it is rising particularly fast in Virginia. A perfect storm of melting polar ice, rising ocean temperatures, and a change in the behavior of the Gulf Stream—all due to global warming—is being exacerbated by the natural subsiding of the sediment underlying Virginia's coastline. With rising tides lapping at Virginia's shores, bold action is necessary to put the Commonwealth on track towards greater sustainability.

Climate change prevention and adaptation investments can no longer be delayed. This year, the federal government issued proposed rules for states to reduce power plant carbon pollution by 30 percent below 2005 levels by 2030. As states explore how these new rules will affect them, it is now clear that Virginia—and every other state in the nation—will have to figure out a way to reduce its greenhouse gas output in a fair, efficient, and cost-effective way.

The Regional Greenhouse Gas Initiative

The Commonwealth of Virginia can reduce its emissions, comply with federal standards, and generate significant new funds to reduce emissions and protect its coasts by participating in the Regional Greenhouse Gas Initiative (RGGI). RGGI is a cooperative effort among nine East Coast states from Maine to Maryland that caps and reduces carbon emissions from power plants. Under RGGI, power plants in participating states purchase allowances for every ton of carbon pollution that they emit. RGGI states agree amongst themselves how many pollution allowances to offer for sale each year, thus setting a *cap* on emissions, and they gradually lower the cap each year. It's a flexible market-based system in that once states set a carbon cap, power plants decide for themselves how to stay below it.

RGGI states have shown that strong climate policy is also sound economic policy by cutting carbon pollution 2.7 times faster than the rest of the country since 2008, even as RGGI's states' economies have grown 2.5 times faster than other states. Over that same period, electricity prices dropped by 8 percent on average across the region while electricity prices in non-RGGI states increased by 6 percent.

Carbon Reductions from RGGI

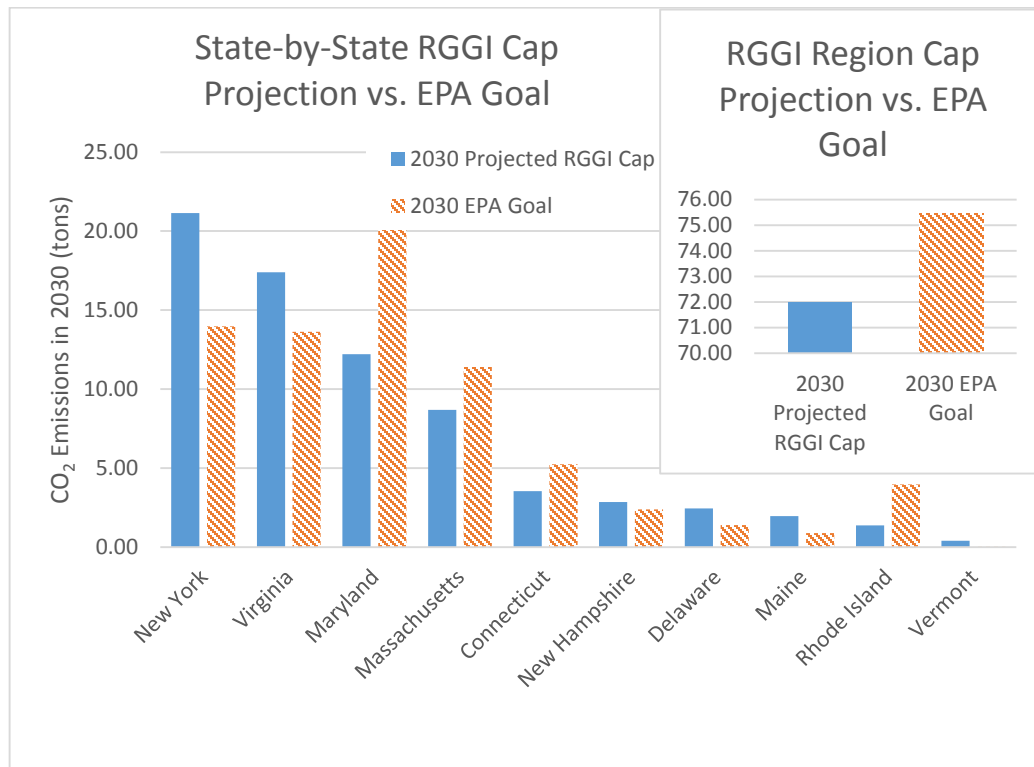
RGGI states individually develop carbon allowance programs that cap CO₂ emissions from fossil fuel power plants at "X" tons per each year. In 2013, RGGI states agreed to set their carbon caps based on the region's 2012 emission levels, and then lower that cap by 2.5 percent per year starting in 2015. In 2012, Virginia's RGGI-eligible power plants emitted almost 29 million tons of CO₂. If Virginia began participating in RGGI in 2015 and lowered their CO₂ cap by 2.5% each year—using 2012 emissions as the baseline—Virginia would reduce roughly 3.6 million tons of CO₂—the equivalent of taking 635,000 cars off the road.

Complying with Federal Standards

The figure below illustrates how extending the RGGI program cap to 2030 compares with the proposed federal carbon reduction targets for the RGGI states and Virginia. The projected 2030 RGGI cap, including Virginia, (71,990,616 short tons) falls below total emissions (75,465,278 short tons) projected for implementation of EPA's alternative building-block approach in RGGI states and Virginia. This figure shows that with a few minor program changes, the *region-wide cap* would likely be low enough in 2030 to meet the requirements of the new federal

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carbon standards—thus allowing all participating states to use RGGI for compliance—even though individual states’ portions of the regional cap (called allowance budgets) come in both above and below EPA’s requirements.



Assuming that the RGGI cap is lowered by 2.5% each year from the current 2012 baseline cap, a region-wide emissions reduction approach should allow Virginia to comply with federal standards even if Virginia’s projected allowance budget in 2030 is slightly higher than the EPA emissions target.

*Methodology adopted from June 2014 Environment Northeast report. Available at http://www.environmentne.org/public/resources/ENE_RGGI--EPA_Clean_Power_Plan_06262014_Final.pdf

New and Significant Funding for Coastal Protection and Economic Growth

RGGI would provide a stable and much needed source of funding, which could be partially spent on coastal adaptation, thus diversifying Virginia’s stream revenue to include more state-based non-federal dollars. Such funding is vital given that a study recently commissioned by the city of Norfolk and completed by the Dutch engineering firm Fugro found that the costs to build seawalls and elevate homes in the city would exceed \$1 billion. By not participating in RGGI, Virginia is potentially leaving up to \$200 million per year on the table, and almost \$1.2 billion in allowance auction proceeds cumulatively by 2020.

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2018 | 2020 |
|---|------------|------------|-------------|-------------|-------------|-------------|-------------|
| Virginia Emissions (tons) | 28,984,360 | 28,984,360 | 28,984,360 | 28,259,751 | 27,553,257 | 26,192,815 | 24,899,545 |
| Regional CO ₂ price (2010 \$/ton)* | 1.86 | 2.92 | 6.02 | 6.37 | 6.73 | 7.52 | 8.41 |
| Virginia Allowance Income (2010 \$)* | 53,939,894 | 84,663,315 | 174,514,831 | 179,901,574 | 185,460,974 | 196,891,391 | 209,430,071 |

*All figures are in 2010 real dollars, as per the dollar values provided in the RGGI program review.

Over the last 6 years of RGGI program history, the states’ use of allowance proceeds has provided economic benefits, while helping them meet a wide variety of social, fiscal, and environmental policy goals, such as assisting low-income customers, achieving advanced energy policy goals, addressing state and municipal budget challenges, and restoring wetlands. According to a recent study by *Analysis Group*, RGGI produced in total \$1.6 billion in net present economic value for participating states from 2009-2011 and led to over 16,000 additional jobs (job-years). The study also found that the scope of RGGI’s positive economic benefits varied by state and region, with those states investing the heaviest in energy efficiency realizing significantly higher economic benefits.

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