

MJB&A Issue Brief ■ February 6, 2019

RGGI Expansion – Implications of Virginia and New Jersey Entering the RGGI Market

The Regional Greenhouse Gas Initiative (RGGI) is a regional market-based emissions reduction program that caps carbon dioxide (CO₂) emissions from electric generating units in nine northeastern states.¹ Since the first compliance period in January 2009, the states have auctioned the vast majority of CO₂ allowances, investing the proceeds into state energy efficiency initiatives, renewable energy programs, and other customer benefit programs. While the current states are in the process of developing state-specific statutory and regulatory processes to align the requirements consistent with the 2017 Model Rule amendments,² two states are also in the regulatory process of developing regulations to participate in RGGI—Virginia and New Jersey.

This issue brief provides an update on Virginia and New Jersey’s proposed RGGI rulemakings. (For additional background, please refer to two prior M.J. Bradley issues briefs on Virginia and New Jersey’s preliminary proposals to join RGGI.³)

In May 2017, former Virginia Governor Terry McAuliffe signed Executive Directive (ED 11), which directed the state’s Department of Environmental Quality (VADEQ) to develop “trading ready” regulations to “abate, control, or limit CO₂ emissions” from the state’s electric generating facilities.⁴ Governor Ralph Northam signaled his support for the state joining RGGI during his 2017 election, and in November 2018, VADEQ approved a re-proposed plan for the state’s entry into the program.

While New Jersey was a founding member of RGGI, the state withdrew in 2012. However, in January 2018, Governor Phil Murphy signed an Executive Order (EO 7) directing the state’s Department of Environmental Protection (NJDEP) and Board of Public Utilities (BPU) to draft proposed rules for the state’s re-entry into RGGI.⁵

¹ Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont

² MJB&A, Summary of RGGI Model Rule Amendments (December 19, 2017), <https://mjbradley.com/reports/mjba-summary-rggi-model-rule-amendments>.

³ MJB&A, Virginia’s Proposed Cap-and-Trade Program (November 2017), <https://mjbradley.com/reports/virginia%E2%80%99s-proposed-cap-and-trade-program>; Potential Impacts of New Jersey Rejoining RGGI (January 2018), <https://mjbradley.com/reports/potential-impacts-new-jersey-rejoining-rggi>.

⁴ Governor Terry McAuliffe, May 16, 2017. “Reducing Carbon Dioxide Emissions from Electric Power Facilities and Growing Virginia’s Clean Energy Economy.” Available at <https://www.deq.virginia.gov/Portals/0/DEQ/Air/GHG/eo11.pdf>.

⁵ Governor Phil Murphy, January 29, 2018. “Executive Order No. 7”. Available at <https://nj.gov/infobank/eo/056murphy/pdf/EO-7.pdf>.

With the addition of Virginia and New Jersey to RGGI in 2020, RGGI’s annual cap would increase from 78 million tons of CO₂ to 124 million tons in 2020, declining to 87 million tons by 2030.⁶ Figure 1 illustrates the two states’ emission budgets for 2020 through 2030 and the overall RGGI annual cap.

Virginia

As discussed in MJB&A’s prior Issue Brief, VADEQ originally proposed a declining cap on electric sector carbon emissions starting at 33 million or 34 million tons. The proposal also contained many of the RGGI Model Rule elements including: (1) a minimum reserve price, which establishes a minimum allowable price for each allowance in a specific auction; (2) a cost containment reserve (CCR), which releases a portion of additional allowances if prices exceed a certain trigger point, and (3) emission containment reserve (ECR), which allows states to withhold a portion of the allowances if prices fall below a certain trigger point.

Further, also discussed in our prior issue brief, Virginia is proposing to require covered sources and the Department of Mines, Mineral, and Energy (DMME) to sell the allowances through a consignment auction. The auction revenue will be returned to covered sources, and regulated electric utilities must use the proceeds to benefit their customers pursuant to VA State Corporation Commission (SCC) requirements. Additionally, five percent of the allowances and the associated auction funds are directed specifically to energy efficiency and renewable energy projects.

In October 2018, VADEQ recommended, and the State Air Pollution Control Board approved, proposed revisions with the central change being a reduction in its CO₂ budget.⁷ The 2020 budget is now proposed to start at 28 million tons (as opposed to the former proposed initial budget of 33 million or 34 million tons). VADEQ proposed this change based on more recent modeling that showed higher emission reductions through 2020. Annual CO₂ budgets for

Figure 1: Existing and Proposed RGGI Budgets

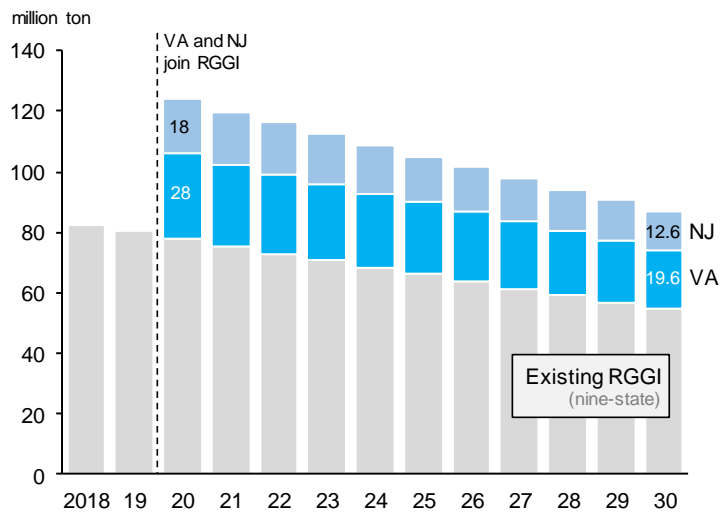
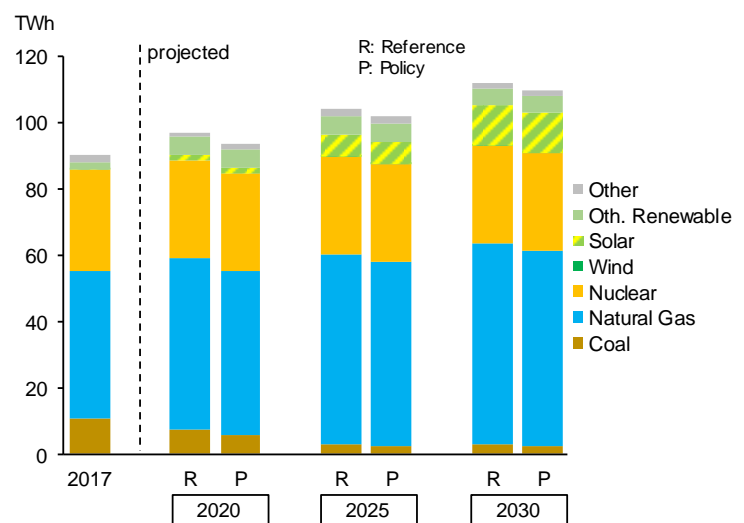


Figure 2: Historic and Projected Generation Mix (Virginia)



⁶ Adjustments for banked allowances are not reflected in this cap.

⁷ Department of Environmental Quality, Air Pollution Control Board. “Reduce and Cap Carbon Dioxide from Fossil Fuel Fired Electric Power Generating Facilities.” Available at <http://www.townhall.virginia.gov/L/ViewStage.cfm?stageid=8476>.

subsequent years would decline by a compound average growth rate (CAGR) of -3.5 percent,⁸ in line with the original proposal.

The modeling results indicate that under the revised RGGI budgets for the state, overall electricity generation in Virginia will be marginally lower, by about four and two percent in 2020 and 2030, respectively, than under the Reference case, largely due to lower fossil-fired generation (see Figure 2). At the same time, the share of renewable resources in Virginia's portfolio mix is projected to rise sharply from under three percent in 2017 to more than 15 percent in 2030, due to steep increases in grid-scale solar PV. However, this increase in renewable generation happens regardless of Virginia's participation in RGGI. Partly as a result, allowance prices are projected to remain low throughout triggering RGGI's newly instituted ECR⁹ in most years.

VADEQ also commissioned a separate bill impact analysis (based on the same set of modeling results used above) to estimate potential changes in customer electricity bills due to Virginia joining RGGI.¹⁰ The results suggest that average monthly electricity bills for customers in Virginia, in the three major customer classes—residential, commercial, and industrial—will be lower by 0.4 to 0.7 percent if Virginia joined RGGI. In absolute terms, according to the analysis, this would translate into average savings of 54 cents per month for residential customers, just over \$5 per month for commercial customers, and about \$200 per month for industrial customers. However, bill impact estimates from Virginia's State Corporation Commission (SCC) show a different view. In a recent legislative hearing, SCC staffers suggested that residential customers in the state would have to pay \$7 to \$12 per month more if the state joined RGGI.¹¹ Public comments on the proposed revised regulations are likely to focus on this issue.

New Jersey

More recently, on December 17, 2018, NJDEP released proposed regulations for New Jersey to rejoin RGGI in 2020. The state's CO₂ budget is proposed to start at 18 million tons in 2020 and decline to 12.6 million tons in 2030. This proposed trajectory reflects a CAGR of -3.5 percent, consistent with Virginia's proposal above as well as existing RGGI state budgets through 2030. As proposed, New Jersey's RGGI budget would make the state the third largest (after New York and Virginia) within the expanded RGGI footprint area.¹²

⁸ The overall RGGI cap reflects a total reduction of 30 percent from 2020 to 2030. It follows a linear trajectory declining by a constant absolute number of allowances each year: fixed at around 3 percent of the 2020 cap level. This translates into a CAGR of about -3.5 percent annually between 2020 and 2030 for the state budgets and the regional cap.

⁹ Beginning in 2021, RGGI is introducing an Emissions Containment Reserve (ECR) under which states may withhold up to 10 percent of the allowances in their base budgets per year. Maine and New Hampshire do not intend to implement the ECR mechanism.

¹⁰ The Analysis Group's bill analysis presentation is available at <https://www.deq.virginia.gov/Programs/Air/GreenhouseGasPlan.aspx>. The analysis assumed that 95 percent of revenue from the sale of carbon allowances or credits are returned to ratepayers and that five percent of allowance revenue is set aside for electricity demand reduction strategies.

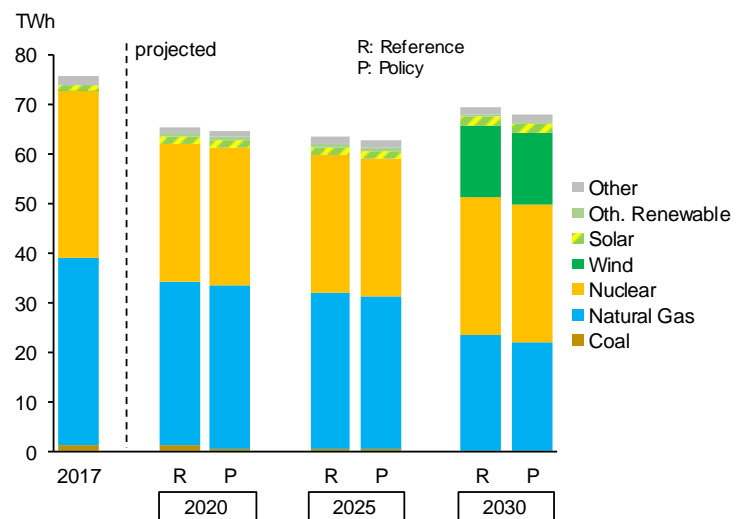
¹¹ Washington Post, January 25, 2019, "Regulators put high cost on Northam's cap-and-trade plan." Available at: https://www.washingtonpost.com/local/regulators-put-high-cost-on-northams-cap-and-trade-plan/2019/01/25/6c54a1a0-20a1-11e9-a759-2b8541bbbe20_story.html?utm_term=.3e88fe692e0c.

¹² For more information on RGGI state-by-state allowance distribution visit <https://www.rggi.org/allowance-tracking/allowance-distribution>.

In both 2017 and 2018, electric generating units in New Jersey emitted about 19 million tons of CO₂.¹³ This means that the proposed RGGI budget for New Jersey would be just about binding in the early years of the 2020-30 period. Even in the latter years, non-RGGI related mandates that result in lower fossil-fired generation (e.g., state RPS program, offshore wind directive, etc.) could make the proposed RGGI budgets relatively easy targets to comply with.

Indeed, modeling by NJDEP¹⁴ suggests that joining RGGI with the proposed budgets will have relatively minimal impact on New Jersey’s overall generating portfolio mix (see Figure 3). Relative to status quo, output from fossil-fired generators does decline somewhat after the state joins RGGI—between two and six percent through 2030. However, the total amount of electricity generated in-state remains more or less unchanged due to the implementation of the directive to install 3.5 gigawatts (GW) of offshore wind capacity by 2030, a New Jersey state mandate that is unrelated to RGGI. As a result, the share of renewable resources in New Jersey’s generation portfolio jumps from 1.3 percent in 2017 to nearly 25 percent in 2030. Because the modeling projects that the increased renewable generation will likely displace fossil-fired output, even without RGGI, New Jersey’s electric sector emissions decline through 2030 to the point where the proposed RGGI budgets are barely binding. This takes pressure off allowance prices and helps keep them low enough to trigger ECR in most years.

Figure 3: Historic and Projected Generation Mix (New Jersey)



NJDEP has also proposed regulations on how the state would direct its auction allowance proceeds. It proposes to allocate 60 percent of revenue to support end-use energy efficiency projects, combined heat and power, and offshore wind development; 20 percent for low-to-moderate income residential sector bill assistance and energy efficiency programs; 10 percent to assist local governments with energy efficiency, renewable energy, and distributed energy investments; and 10 percent to enhance stewardship and restoration efforts for the state’s forest and tidal marshes.¹⁵

Power and Allowance Price Implications

The modeling data from above also suggest that average firm power prices¹⁶ in the existing RGGI area as well as in Virginia and New Jersey will be marginally higher when the two states join RGGI—on average 0.8-3.3 percent

¹³ MJB&A analysis based on EPA Air Markets Program Data.

¹⁴ NJDEP’s modeling assumes that both VA and NJ join RGGI in the Policy case; VADEQ’s modeling assumes that only VA join RGGI in the Policy case. Modeling data and additional information are available on NJDEP’s website, at <https://www.state.nj.us/dep/aqes/rggi.html#/>.

¹⁵ Department of Environmental Protection, “Global Warming Solutions Fund.” Available at https://www.state.nj.us/dep/aqes/docs/rggi_gwsf_proposal_with_disclaimer.pdf.

¹⁶ Firm power price, sometimes also called a bundled price, comprises electrical energy and capacity prices. Capacity prices are averaged over all hours of the year and added to the electrical energy price.

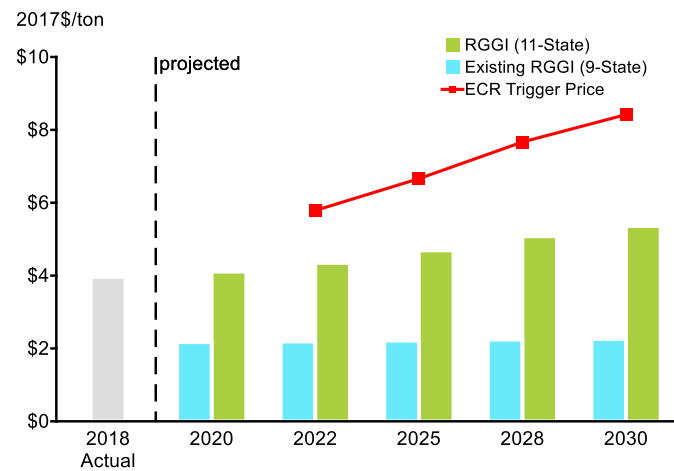
higher between 2020 and 2030 in real terms. The price increases are lowest in Virginia, rising by 1.4 percent in 2020 and tapering off to less than 0.8 percent in 2030. In New Jersey, the magnitudes of the increases are larger: starting at about 1.4 percent in 2020 and reaching 3.3 percent in 2030. However, the projected changes are modest enough that under both Reference and Policy scenarios, through 2030, average firm power prices in the entire 11-state region (i.e., existing RGGI plus Virginia and New Jersey) never stray outside of a relatively narrow band of \$33-\$48 per MWh (in 2017 dollars).

By contrast, allowance prices are projected to jump significantly higher, albeit from a low base, when the two states join RGGI. According to the modeling data, with Virginia and New Jersey inside RGGI, allowance prices in 2030 will increase to \$5.36 per ton (in 2017 dollars), up from the projected price of \$2.26 (in 2017 dollars) per ton if the two states did not join RGGI. However, even with these increases, allowance prices remain low in absolute terms—in all years and all scenarios prices are projected to remain below the ECR trigger price leading the model to withhold up to 10 percent of the allowances in most states (see Figure 4).

Next Steps

Virginia DEP will be accepting comments on the proposed revision through March 6, 2019 and will consider the final regulation in spring 2019.¹⁷ NJDEP is accepting comments on its proposed rule and funding framework in New Jersey until February 15, 2019.¹⁸ Both states intend to participate in RGGI by January 1, 2020.

Figure 4: Projected and Historic Allowance Prices



¹⁷ The final proposed rule will be published with the Virginia Registrar of Regulations on February 4, 2019 and public comments can be submitted here <http://register.dls.virginia.gov/>.

¹⁸ The online form to submit comments is available at <https://www.nj.gov/dep/rules/comments/index.html>.

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