



# Inside Energy

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**RE: RGGI and the Dormant Commerce Clause**

**DATE : 11/2/2019**

**David T. Stevenson, Director**

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## Summary

The U.S. Constitution (Article 1, Section 8) authorizes Congress to regulate interstate commerce. The Supreme Court has interpreted this, through the “Dormant Commerce Clause”, to exclude state laws and regulations that interfere with, or discriminate against, interstate commerce. Documents published by RGGI, Inc., the organization that administers the Regional Greenhouse Gas Initiative (RGGI), provide evidence the multi-state program harms electric customers in non-RGGI states. Specifically, over the last eleven years the RGGI states of Maryland, Delaware, and New Jersey have raised electric rates in ten non-RGGI states, and the District of Columbia participating in the PJM Interconnection Regional Transmission Organization (RTO). New rules adopted by the RGGI states, and the possible addition of Virginia to the RGGI program may dramatically raise the cost for non-RGGI states between 2020 and 2030.

Fossil fuel fired electric generators in RGGI states must buy carbon dioxide (CO<sub>2</sub>) emission allowances in quarterly auctions to operate. The number of available allowances is reduced each year with the purpose of reducing CO<sub>2</sub> emissions. Price control mechanisms send pricing signals to the auctions with the specific intent of raising average auction prices.

The Federal Energy Regulatory Commission approves RTO pricing policies. PJM uses their Reliability Pricing Model to establish wholesale electricity rates. Individual Electric Generating Units (EGUs) bid prices to supply electricity to PJM one day ahead, and in real time. The lowest price that supplies the last megawatt-hour (MWh) of power needed becomes the Clearing Price. Every EGU supplying power receives the Clearing Price, even if they bid lower prices.

Coal, natural gas, and oil-fired EGUs in RGGI states add the cost of allowances to their bids to recover the cost, and, theoretically, at times set the Clearing Price for all generators, including those in non-RGGI states. Coal-fired generators in RGGI states are often uncompetitive and consequently operate fewer hours, and cycle on and off lowering operating efficiency. Lower efficiency adds operating costs and consumes more coal further raising bid prices. These higher Clearing Prices are passed onto electric customers in non-RGGI states through their retail electric suppliers sticking the customers with higher prices directly caused by another state’s regulatory policy.

Maryland, Delaware, and New Jersey (NJ left RGGI in 2011 but is rejoining in 2020) received almost \$0.9 billion in allowance revenue between mid-2008, and mid-2019. However, higher Clearing Prices raised electric rates in non-RGGI states an estimated \$1.7 billion to \$3 billion. Over the 2020 to 2030 period the premium electricity cost for non-RGGI states is estimated to be \$2.75 billion to \$16.4 billion. Individual states will see different impacts. For example an estimate for West Virginia suggests a cost impact of \$15 to \$89 million in the 2008 to 2019 period, and \$163 to \$977 million possible in the 2020 to 2030 time period. The RGGI impact on non-RGGI states justifies a Dormant Commerce Clause lawsuit.



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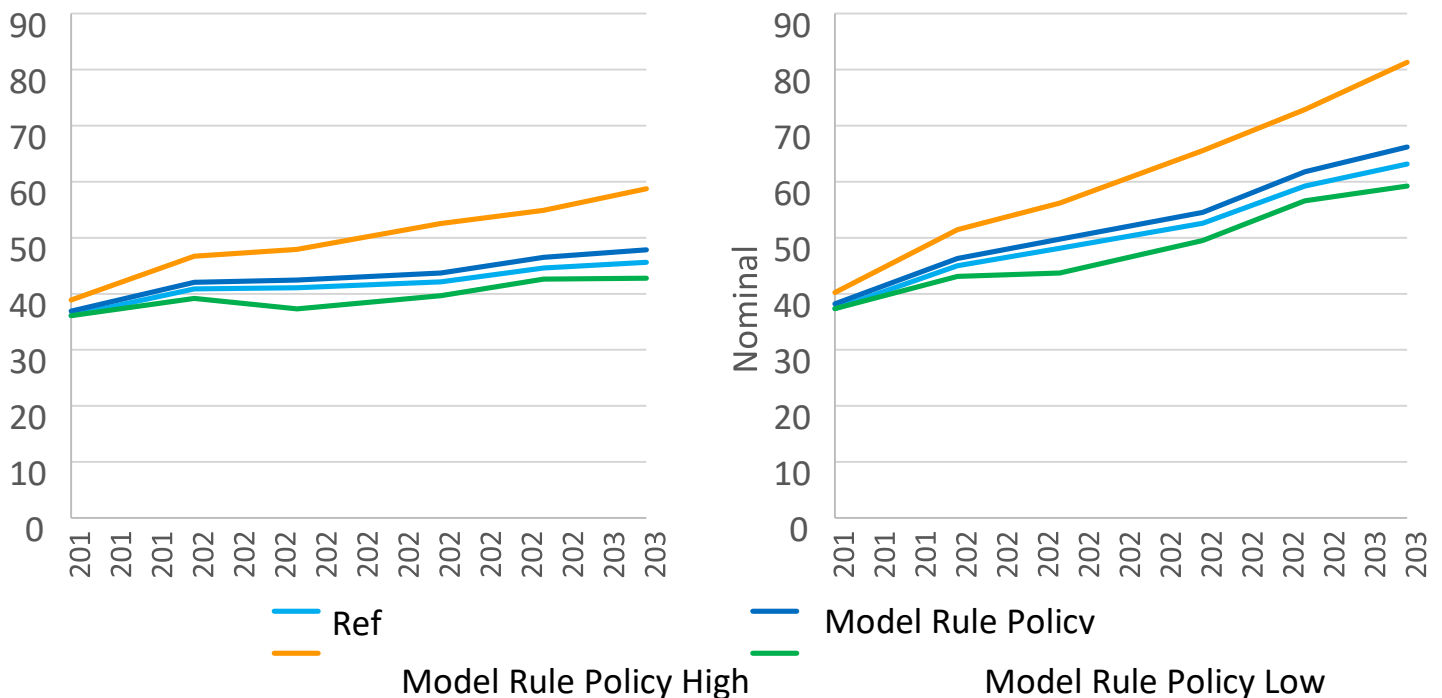
## Estimating the cost impact on non-RGGI states

A Virginia State Corporation Commission staff report on the impacts on Dominion Energy Virginia of joining the RGGI program summarizes well how allowance costs are passed on to non-RGGI states:

“SCC Staff estimates that Virginia linking to RGGI will cause PJM power prices to increase by an average of \$0.44 per megawatt hour over the 2020 to 2030 time period. Hourly PJM energy prices are determined by the marginal unit that clears the market each hour. The imposition of additional costs on Virginia fossil fuel units for the required offsetting CO<sub>2</sub> emissions allowances under RGGI will generally lead to higher cost marginal units setting the hourly PJM energy price, thus putting upward pressure on PJM energy prices.”<sup>1</sup>

The SCC relied on reports from The Analysis Group for RGGI, Inc., using the Integrated Planning Model run by ICF International. The IPM is a widely recognized tool “providing true integration of wholesale power, system reliability, environmental constraints, fuel choice, transmission, capacity expansion, and all key operational elements of generators on the power grid in a linear optimization framework”, according to ICF. The key document providing the basis of the \$0.44/MWh price increase is the “2017 Model Rule Policy Scenario Overview”<sup>2</sup> published on the RGGI, Inc., website, and shown as Chart 1 below. The \$0.44/MWh is derived from the average of the difference between the light blue and dark blue lines on the left side of the chart which is shown in 2015\$.

Chart 1 shows the projected RGGI average annual firm (energy + capacity) prices in constant 2015 and nominal dollars.





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Some background is needed to understand the various cases. The new RGGI rules will add allowances to auctions if a Cost Cap Reserve (CCR) trigger price is exceeded, and will withhold allowances if prices fall below an Emissions Containment Reserve (ECR) trigger price set at 46% below the CCR (the lower limit is new in 2021). The CCR was used for the first time in 2014, and sent a price signal to the auction participants. The Reference case (light blue) assumes RGGI allowance reductions do not continue beyond 2019. The Model Rule Policy case (dark blue) is the adopted plan for allowance reductions from 2020 to 2030, and assumes allowance prices track the ECR trigger price. The Model Rule Policy High case assumes allowance prices track the CCR trigger price. The left side adjusts for inflation, while the right side uses actual prices that will be paid for allowances and the price electric customers will see reflected in their electric bills.

The SCC comments allowance prices have often been below the cap. However, RGGI has been playing catch up since its inaugural auction in 2008. The natural gas revolution drove natural gas prices lower than the equivalent price of coal at the same time new US EPA regulations forced the shut-down of older, smaller coal-fired plants. Consequently, generation shifted to lower emitting natural gas faster than RGGI could reduce emission targets leaving a glut of allowances for most of the last eleven years. Those trends have mostly run their course. In addition, speculators are likely to play a role in keeping allowance prices high. Speculator participation has varied from zero to 43 percent, and allowance prices rise with speculator participation with a 0.53 correlation. It is much more likely auction prices will follow close to the price signal of the CCR.

The \$0.44/MWh is a likely best case scenario. A worst case scenario can be estimated using nominal dollars, and the high case tracking the CCR trigger price which is six times higher, or \$2.64/MWh. In 2018 PJM electric demand totaled 828.2 million MWhs, with 265 million consumed in the four potential RGGI states, and 563.2 million consumed in non-RGGI states. Assuming those demand levels continue from 2020 to 2030, the average extra wholesale cost to non-RGGI states paid by electric customers may be \$0.25 billion to \$1.49 billion a year in the best case scenario, or \$2.75 billion to \$16.4 billion over the eleven year period in the worst case scenario.

## **Potential offsetting benefits to non-RGGI states**

The RGGI states might argue that higher electric revenue in non-RGGI states is an economic benefit. However, the higher electric cost, and higher revenue cancel each other out in terms of net indirect and induced economic benefit. The higher electric cost is still a direct out-of-pocket cost to electric customers. It is important to note utility commissions use a standard of “just & reasonable” when setting electric rates. By that standard, no utility commission would allow windfall profits for a utility at the expense of electric customers. The injury to electric customers is enough justification for a federal lawsuit.

The same amount of generation occurs at either price, leading to the same amount of labor, and generating companies are unlikely to pay higher wages based on windfall prices. The extra revenue most likely flows to the electric generating companies as higher profit. Four states, West Virginia, North Carolina, Indiana, Michigan, and the District of Columbia, might tax the profits generated in their states, but the profits would most likely be sent to corporate headquarters in other states. Tax rates vary from 3 percent



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in North Carolina to 8.25 percent in the District of Columbia, with an average of 5.9 percent, a small revenue return for the cost to electric customers. For example, West Virginia, with electric demand of 33.6 million MWh a year, would see a net loss of \$152 to \$913 million even after corporate taxes are considered. More likely the profits would pass through generation owning Ohio based American Electric Power and Pennsylvania based Allegheny Power. Per annum, the average West Virginia Household pays more for electricity than they do in income taxes and property taxes. West Virginia ranks 49<sup>th</sup> among the states in per capita income, and has a poverty rate well above the nation. To “overcharge” West Virginia households for electricity is cruel.

A second potential benefit would occur if PJM RGGI states began importing more power from non-RGGI states because of RGGI. In Table 1 below we see that happened in Maryland and Delaware comparing RGGI 2008 to 2018. However, most of the reduced generation between 2008 and 2018 can be attributed to the same factor impacting the entire country, the closing of power plants because of EPA regulations such as the Mercury & Air Toxics Standard, and the Cross State Air Pollution Rule, not RGGI. RGGI documents forecast imports will decrease from 2020 to 2030 as new natural gas-fired power plants come on line along with more renewable power.

Table 1: Changing MD & DE Import Levels from PJM with RGGI – Thousand MWh

Year	Electric Demand	Electric Generation	Imports	Import %
2008	75,075	54,885	20,190	26.9 %
2018	73,264	49,941	23,323	31.8 %
2020-2030 Average	72,442	51,642	20.800	28.7%

2007 & 2018 actual, 2020-2030 RGGI, Inc. estimates<sup>3</sup>

A third potential benefit RGGI states might claim is the value of reducing carbon dioxide emissions globally. However, two independent studies come to the conclusion the decade old RGGI program did not significantly reduce global emissions. A study by the Congressional Research Center titled, “The Regional Greenhouse Gas Initiative: Lessons Learned and Issues for Congress”, came to this conclusion, “from a practical standpoint, the RGGI program’s contribution to directly reducing the global accumulation of GHG emissions in the atmosphere is arguably negligible”<sup>4</sup>. My report titled, “A Review of the Regional Greenhouse Gas Initiative”, concluded that compared to states with similar energy policies except for RGGI, “There were no added emissions reductions or associated health benefits from the RGGI program”<sup>5</sup>.

## Conclusion

PJM provides electric generation for 65 million people in all, or part of thirteen states and the District of Columbia. RGGI has already raised electric rates in non-RGGI PJM states by up to \$3 billion, and new rules going into effect in 2019 may raise electric rates by up to \$16 billion between 2020 and 2030, with no end in sight. These estimates are based on documents from RGGI, Inc. itself, but can be confirmed by PJM. The U.S. department of Energy has been petitioned to obtain actual data from PJM. State laws and regulations that interfere with, or discriminate against interstate commerce violate the U.S. Constitution. It is time to take RGGI to federal court.



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## Notes:

- 1) Response to Virginia Delegate Poindexter from the Virginia State Corporation Commission, Feb. 27, 2019,  
[file:///C:/Users/dtste/AppData/Local/Packages/microsoft.windowscommunicationsapps\\_8wekyb3d8b-bwe/LocalState/Files/S0/39763/SCC%20Poindexter%20response\[40555\].pdf](file:///C:/Users/dtste/AppData/Local/Packages/microsoft.windowscommunicationsapps_8wekyb3d8b-bwe/LocalState/Files/S0/39763/SCC%20Poindexter%20response[40555].pdf)
- 2) DRAFT 2017 Model Rule Policy Scenario Overview Sept. 25, 2017, page 13  
[https://www.rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Draft\\_IPM\\_Model\\_Rule\\_Results\\_Overview\\_09\\_25\\_17.pdf](https://www.rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Draft_IPM_Model_Rule_Results_Overview_09_25_17.pdf)
- 3) 2008 electric generation and demand information is from Energy Information Agency, “Detailed State Data 1990 to 2017”, <https://www.eia.gov/electricity/data/state/> , 2018 electric demand and generation is from US Energy Information Agency, Tables 1.3B and 5.4B, Electric Power Monthly, February, 2019, <https://www.eia.gov/electricity/monthly/> , 2020 to 2030 Generation estimate from “2017 RGGI Model Rule Policy Scenario (No National Program)”, June 27, 2017 Meeting, <https://www.rggi.org/program-overview-and-design/program-review> , 2020 to 2030 Import estimate from “Draft Model Rule Run Transmission Flow, April 29, 2016 Meeting, <https://www.rggi.org/program-overview-and-design/program-review> , total electric demand from calculation of generation plus imports
- 4) Congressional Research Service, May 16, 2017, “The Regional Greenhouse Gas Initiative: Lessons Learned and Issues for Congress”, Summary, page 1, Jonathan L. Ramseur Specialist in Environmental Policy,  
<file:///C:/Users/dtste/Documents/RGGI%20Congressional%20Research%20Center%20Study.pdf>
- 5) Cato Journal, Winter, 2018, “A Review of the Regional Greenhouse Gas Initiative”, Summary, Page 2, David T. Stevenson, Director Center for Energy Competitiveness for the Caesar Rodney Institute, <https://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2018/2/cato-journal-v38n1-chapter-11.pdf>