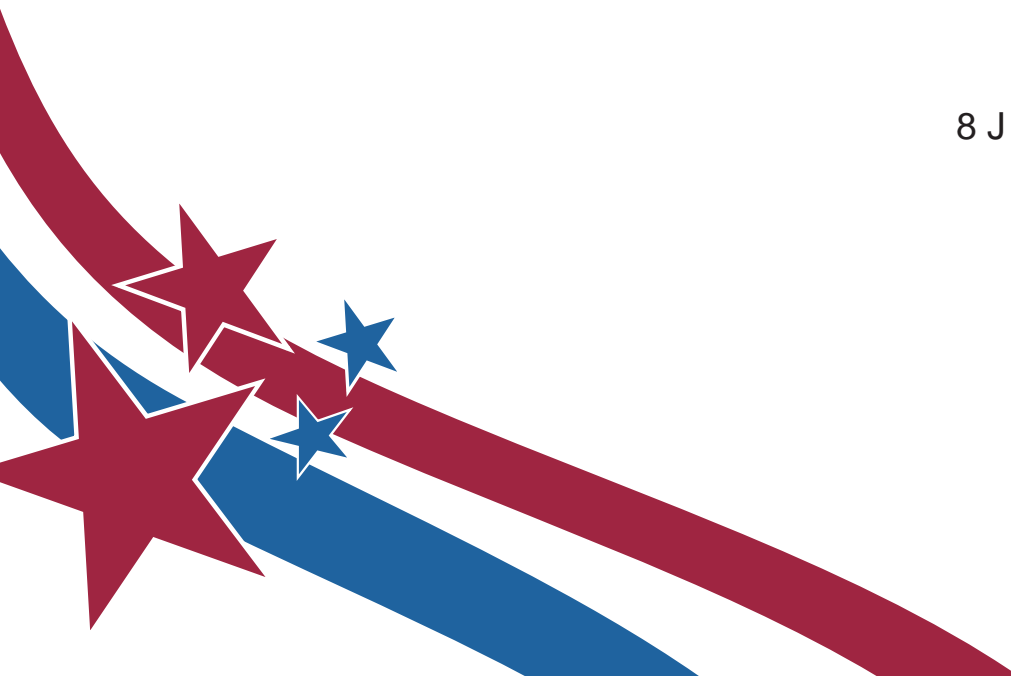




3URV DQG &RQV RI 1  
 3DUWLFLSDWLRQ LQ  
 \*UHHQKR XVH \*DV ,QL

\*GSBI 2  
 8JMMJBN + )VHIFT \$FOU  
 4UPDLUPO 6  
 7FSB ,JOH 'B  
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## Introduction

In 2009, a coalition of states formed a cooperative in order to set a cap on CO<sub>2</sub> emissions, the first mandatory market cap program of its kind in the United States. The states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont and Virginia form the current members of the Regional Greenhouse Gas Initiative (RGGI), with Pennsylvania set to join in 2021. The RGGI aims to reduce CO<sub>2</sub> emissions by setting a regional emissions cap. Each state then holds an auction for CO<sub>2</sub> allowances, which allow fossil fuel power plants to purchase an allowance equal to their CO<sub>2</sub> emissions. The states then reinvests the funds from the auctions into cleaner energy sources. This not only helps reduce CO<sub>2</sub> emission, but also seeks to create jobs within the renewable energy sector.<sup>1</sup>

New Jersey, under former Governor Chris Christie, left the RGGI in 2012, only to rejoin the initiative this year under Governor Phil Murphy. Gov. Christie claimed that the RGGI would have no discernible positive environmental effects and would serve only as an additional cost to the taxpayer.<sup>2</sup> Governor Murphy, however, opposed

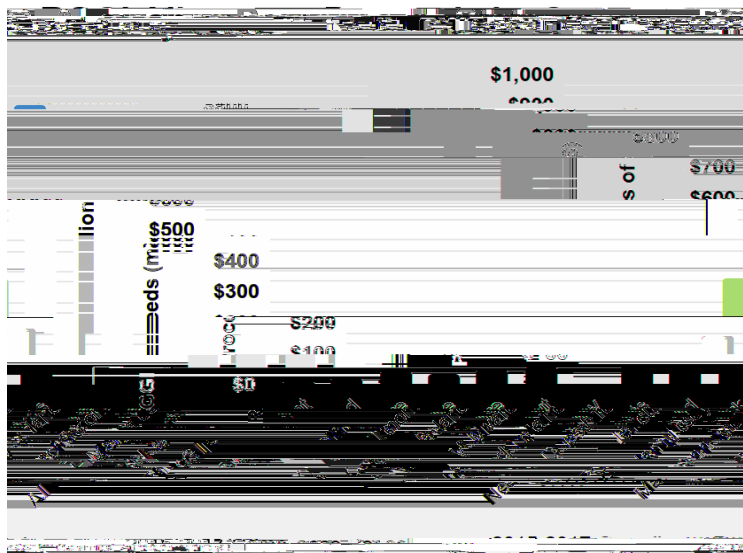


Another report conducted by the Congressional Research Service, a public policy research institute of the U.S. Congress, suggests that overall RGGI has produced positive economic gains for all states involved, but to vastly different degrees.<sup>7</sup> The report recognizes that each state within the region differs in the amount of electricity consumed by high carbon emitting sources. For example, Vermont relies primarily on nuclear power and hydroelectricity, whereas Delaware relies heavily on coal burning. Consequently, electricity consumers in Delaware will suffer more sharp increases in electricity prices in comparison to those in Vermont, and such differences contribute to drastically different results in overall economic gain.<sup>8</sup> In comparison, New Jersey relies primarily on natural gas and nuclear energy to fuel its electricity generation; the two sources account for 94% of electricity generated at utility-scale in New Jersey. Whereas nuclear powered energy is emission free, natural gas accounts for more of

of RGGI within New Hampshire concurs that the economic benefits produced are within the state's best interest.<sup>11</sup>

stayed within the program. With its rejoining, New Jersey plans to invest \$45 million to reduce greenhouse gases produced by the transportation sector. Further, the state plans to use the proceeds to emphasize projects that will benefit environmental justice in certain communities.<sup>13</sup>

### Environmental Impacts of RGGI



<sup>13</sup> Governor Murphy Announces Adoption of Rules Returning New Jersey to Regional Greenhouse Gas Initiative. (2019, June 17). Retrieved November 13, 2020, from <https://nj.gov/governor/news/news/562019/approved/20190617a.shtml>

With a substantial decrease in allowed emissions from power plants, proponents of the RGGI have applauded its success in reducing overall CO<sub>2</sub> emissions in its respective region. Much of the literature agrees that within the region, the RGGI has produced a net decrease in CO<sub>2</sub> emission since its implementation in 2009. However, there is a small group of critics who refer to the idea of Emission Leakage as a critique on the environmental efficacy of the initiative. Emission Leakage refers to the idea that there are emission sources not being accounted for in the energy sectors of the RGGI states. This leakage could be from imported energy from non-RGGI states. It presents a critical design flaw in measuring CO<sub>2</sub> emissions and their decreases within a state when sources of emission outside a state are being ignored.<sup>14</sup> This emissions leakage presents itself in a few ways. A prime example is if a town or area in an RGGI state borders a non-

be noted that RGGI emission allowances generally do not sell entirely at the set cap. In other words, the initiative sells fewer emission allowances consistently than they have set as a cap for that compliance period. Thus, producing less in emissions than the set cap gives these states some allowances to compensate for the 5% to 11% energy being imported from other states. Literature confirming how much emissions imported energy produces and how it interacts with RGGI emissions could not be found. However, it could still meet the set cap for each respective compliance period.

The emission leakage implications for New Jersey, however, appear to be more optimistic. New Jersey imports only 8% from generators in other states as part of the Pennsylvania, Jersey, Maryland Power Pool (PJM) interconnection. All of its natural gas imports come from Pennsylvania, before shipping amounts of it off to certain New England states.<sup>17</sup> With Pennsylvania set to join NJ and other states as part of the RGGI, Pennsylvania is poised to be working towards reduced emission energy as well. Established natural gas pipelines and PJM power grids generally affirm that most of New Jersey's imported energy that could result in emissions leakage originates in Pennsylvania. Emissions leakage only presents a serious contention to reduced emissions when energy is imported from a non-RGGI state.

In regard to actual carbon emissions, the RGGI regional emissions fell 45 percent below the 10-state cap during the 2009-2011 compliance period. Since leaving the RGGI, New Jersey carbon emissions have continued to increase, from 17 million tons of CO<sub>2</sub> in 2011 to 22 million tons in 2016.<sup>18</sup> In comparison, RGGI states have reduced their regional CO<sub>2</sub> emissions by 25 percent in that period. Rejoining RGGI should put New Jersey close to 2011 levels of emission

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<sup>17</sup> "New Jersey - State Energy Profile Analysis." Energy Information Administration (EIA). U.S. Energy Information Administration - EIA, September 17, 2020. <https://www.eia.gov/state/analysis.php?sid=NJ>.

<sup>18</sup> "Potential Impacts of New Jersey Rejoining RGGI ." Mjbradley.com, M.J. Bradley & Associates, LLC, 19 Jan. 2018, [www.mjbradley.com/sites/default/files/MJBA\\_NJ\\_Considers\\_Rejoining\\_RGGI.pdf](http://www.mjbradley.com/sites/default/files/MJBA_NJ_Considers_Rejoining_RGGI.pdf).



with the regional cap. The New Jersey Department of Environmental Protection found that during 2007 and 2008, prior to the formation of RGGI, emissions produced by the state's energy sector were 35.6 and 29.9 million tons respectively.<sup>19</sup> After the first RGGI compliance period, New Jersey had managed to reduce energy sector emissions to 17 million tons in 2011 before withdrawing from the initiative. This suggests that the market cap program, within New Jersey specifically, was effective in decreasing the state's individual carbon dioxide emissions. The established mechanisms for the program sets the initial carbon-dioxide cap for the state's electricity generation sector at 18 million tons for 2020. The caps in following years project New Jersey's carbon dioxide budget declining by 30 percent through 2030, with projected emissions to be at 11.3 million tons.<sup>20</sup> This steers the state on the path toward the goal of completely clean energy by 2050.



the initiative then does not lie in the positive economic effects produced but rather in the environmental ones. In comparing carbon emissions prior to RGGI, during, and after New Jersey's withdrawal, the data suggest that the market cap did produce a significant decrease in emissions and withdrawing led to a resurgence of emissions. As the first program of its kind in the U.S., it does not only help New Jersey environmentally and economically, but also provides a feasible climate action model for other states to implement. The cooperative addresses the main concern of strict climate policy critics, that restrictions on emissions hinder growth. With RGGI proving the opposite to be true, the positives provide hope for a greener future.

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