RGGI's Benefits for New Hampshire

The Value of Energy Efficiency Investment

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Acadia Center

Advancing the Clean Energy Future

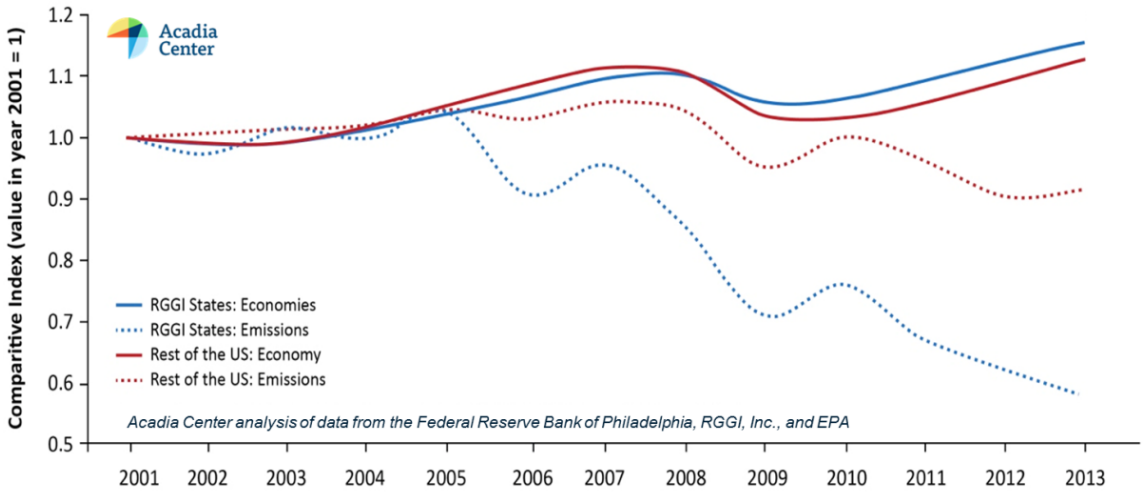
The Regional Greenhouse Gas Initiative (RGGI) has proven to be a successful program for New Hampshire, both as an engine of economic growth and a tool for reducing harmful emissions from the power sector. Since the program began in 2009, RGGI has delivered significant economic benefits, employment opportunities, clean energy investments and health improvements in New Hampshire and the RGGI region as a whole, while electricity prices have decreased. The benefits that the region has experienced from RGGI are due, in large part, to the reinvestment of auction revenue in energy efficiency and clean energy projects. Terminating New Hampshire's use of RGGI revenue for reinvestment in energy efficiency—as House Bill 208 (which has passed the House and is under consideration by the Senate) proposes to do—would strip the state of these benefits. Alternatively, New Hampshire could take this opportunity to maximize its benefits by revising the state's RGGI spending plan to invest more heavily in energy efficiency, its most cost-effective resource.

RGGI Is Working

Since 2009, carbon pollution has declined significantly in the RGGI region without harming economic growth. Greenhouse gas (GHG) pollution from power plants has fallen by 18% across the region since RGGI launched, and by 37% in NH.[1] While one major cause for this decline is increased generation from natural gas, rather than more carbon-intensive fuels, RGGI-funded investments in renewables and energy efficiency have helped to drive emissions downward.[2] This reinvestment of RGGI revenue in energy efficiency and other clean energy programs will reduce GHG emissions by 12 million tons, which is equivalent to removing two million cars from the road.[3]

Not only has the RGGI region reduced emissions, but it has done so more quickly and more cost effectively than the rest of the county. RGGI states cut per-capita GHG pollution 2.7 times faster than the rest of the country since the program launched, while the region's economy grew 2.5 times faster than the rest of the country.

Breaking the Link: Emissions v. Growth in RGGI and Non-RGGI States



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Acting on Climate Change

The impacts of climate change are becoming increasingly apparent, globally and locally. 2014 was the hottest year on record, and the ten warmest years in the instrumental record, with the exception of 1998, have now occurred since 2000.[4] These hotter temperatures are super-charging our weather, increasing the damage to coastal communities as exemplified by Superstorm Sandy, and increasing flooding, as New Hampshire witnessed as a result of Tropical Storm Irene. The strength of these storms is intensified by higher-than-average sea surface temperatures, which are linked to climate change.[5][6]

New Hampshire and the rest of the RGGI states deserve credit for implementing the country's first market-based mechanism for reducing global-warming-causing emissions from the power sector. The program's success in delivering emissions reductions while generating positive economic impacts has demonstrated that market forces can be used to effectively combat climate change.

Economic Benefits

RGGI has been economically beneficial for New Hampshire and the rest of the RGGI region, as a result of the effective investment of auction revenue. Independent analysis[7] has found that the net effect of RGGI's first two and a half years of operation was:

- A boost in economic output in participating states of $1.6 billion dollars;
- 16,000 job years of employment across the regional economy;
- $1.3 billion in energy bill savings over 10 years

In New Hampshire specifically, the first two and a half years of RGGI participation resulted in $17 million in value added to the economy, and 458 job-years of employment.[8] Electricity prices (¢/kWh) in New Hampshire have declined by 2% from 2008 (before RGGI was launched) to 2013, and by 8% across the region over that period of time.[9] To date, RGGI allowance auctions have generated $76.3 million in revenue for New Hampshire,[10] and the program is projected to bring the state an additional $198.7 million in revenue from 2015-2020.[11] The ultimate economic impact on the state will be largely determined by the extent to which New Hampshire uses this revenue to invest in energy efficiency and renewable energy. In addition to spurring the local economy, creating jobs and reducing GHG emissions, spending on energy efficiency and renewable energy reduces the state's reliance on fossil fuel imports. In 2013, New Hampshire spent $4.5 billion on fossil fuel imports,[12] and nearly all of this money flows out of the state.

Use of RGGI Revenue

New Hampshire could be leveraging its RGGI revenue to generate greater benefits. As the table below shows, the states that have invested auction revenue most heavily in energy efficiency have also experienced the greatest economic impacts. In order to maximize these benefits, New Hampshire will need to invest more of its auction revenue in energy efficiency—not less.

State	Value Added per $ Revenue	% Revenue Spent on EE
Rhode Island	4.93	93%
Maine	3.41	84%
Vermont	3.14	98%
New Hampshire	0.52	66%

Since the time when the analysis was conducted for the table above, New Hampshire has actually invested significantly less than 66 percent of its RGGI auction revenue in energy efficiency. Per the current spending plan, one dollar of each allowance sold is used for energy efficiency, with the remainder used for electric ratepayer rebates. At current RGGI allowance prices,[13] this means that less than 20 percent of New Hampshire's auction revenue is directed towards the resource that has been proven to be most cost effective. And if that figure is cut to zero, with all available revenue used for energy bill rebates, as the amendment to House Bill 208 proposes to do, New Hampshire's economic benefits will be slashed yet again.

Investing in energy efficiency is significantly less expensive than purchasing electricity, and offers greater economic benefits than electric bill rebates. New Hampshire's Core energy efficiency programs have a benefit:cost ratio of 2:1, and have saved electricity at an average cost of $0.0226 per kWh,[14] while the average retail electricity price in New Hampshire in 2013 was $0.14 per kWh.[15] Although electric bill rebates and energy efficiency measures both reduce ratepayer bills, energy efficiency creates the following benefits that rebates do not:

- job creation in the energy efficiency and construction industry;
- GHG emissions reductions;
- savings on fossil fuel imports; and
- downward pressure on wholesale electricity prices.[16]

In the interest of the state's economy, environment, and employment, New Hampshire should seek to increase the RGGI funding for energy efficiency. House Bill 208, which has passed the House and is under consideration by the Senate, instead eliminates the use of RGGI funds for efficiency. The Senate should reject this change.

For more information:

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Endnotes

[1] CO_2 emissions from power plants in New Hampshire have declined from 5.77 million tons in 2009 to 3.65 million tons in 2013. Source: Acadia Center analysis of emissions data from RGGI, Inc., available at: https://rggicoats.org/eats/rggi/index.cfm?fuseaction=search.rggi_summary_report_input&clearfuseattribs=true

[2] More information on fuel switching and energy efficiency savings from RGGI available in Acadia Center's May 2014 report *The Regional Greenhouse Gas Initiative: Performance To-Date and the Path Ahead*, available at: http://acadiacenter.org/wp-content/uploads/2014/05/AcadiaCenter_RGGI_Report_140523_Final3.pdf

[3] RGGI, Inc., 2011, Regional Investment of RGGI CO2 Allowance Proceeds, 2011, available at: http://rggi.org/docs/Documents/2011-Investment-Report.pdf. Whether RGGI "caused" investments or fuel-switching responsible for the remainder of the decline in emissions is irrelevant, as the program was not designed to drive any one behavior. So long as emissions are below the cap the program is meeting objectives, and if emissions drop more quickly and at lower cost than anticipated the objectives should be updated.

[4] http://www.nasa.gov/press/2015/january/nasa-determines-2014-warmest-year-in-modern-record/#.VL-9FC5WHEY

[5] MIT Technology Review http://www.technologyreview.com/view/506646/climate-change-likely-makes-storms-like-sandy-worse/;

[6] The intensity, frequency, and duration of North Atlantic hurricanes have all increased since the early 1980s. The relative contributions of human and natural causes to these increases are still uncertain. Hurricane-associated storm intensity and rainfall rates are projected to increase as the climate warms. U.S. Global Change Research Program. *Climate Change Impacts in the United States.* Available at: http://192.168.1.1:8181/http://s3.amazonaws.com/nca2014/high/NCA3_Climate_Change_Impacts_in_the_United%20States_HighRes.pdf

Projected Frequency of Intense Hurricanes, available at: http://www.globalchange.gov/browse/multimedia/projected-frequency-intense-hurricanes

[7] Analysis Group, 2011, The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States, available at: http://www.analysisgroup.com/uploadedFiles/Publishing/Articles/Economic_Impact_RGGI_Report.pdf

[8] Ibid.

[9] Average retail electricity prices in New Hampshire were $0.146/kWh in 2008, and $0.143/kWh in 2013, according to EIA: http://www.eia.gov/. EIA has yet to release complete data for 2014 electricity prices.

[10] Revenue figures are up to date through Auction 26, which was held in December of 2014. RGGI Auction Results available at: http://rggi.org/market/co2_auctions/results

[11] Projections based on Acadia Center analysis of data from IPM Modeling and RGGI, Inc. Modeling results available at: http://rggi.org/docs/ProgramReview/2013%20IPM%20Modeling%20Results.zip

[12] Information on fuel imports and prices available at: http://www.eia.gov/state/seds/seds-data-complete.cfm?#PricesExpenditures

[13] The average clearing price for the last three RGGI allowance auctions is $5.04: http://rggi.org/market/co2_auctions/results

[14] RGGI auction revenue for energy efficiency is directed through the Core energy efficiency programs. New Hampshire PUC, *Results and Benefits of the System Benefits Charge: Annual Report*, October 2014: http://www.puc.state.nh.us/Results%20and%20Effectiveness%20Of%20The%20System%20Benefits%20Charge,%202014%20Annual%20Report.PDF.

[15] EIA: http://www.eia.gov/. EIA has yet to release complete data for 2014 electricity prices.

[16] Energy efficiency savings drive down electricity prices through a process known as the Demand Reduction Induced Price Effect (DRIPE), which benefits all electric consumers in the region.