What's Next for RGGI?

The Clean Power Plan, State Climate Commitments, and the 2016 Program Review

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Acadia Center
Advancing the Clean Energy Future

Under EPA's Clean Power Plan (CPP) leading states will no longer be acting alone to rein in carbon pollution. Early-acting states, including the members of the successful Regional Greenhouse Gas Initiative (RGGI), have earned valuable experience and real benefits from early action, and must continue to pursue bold climate leadership in order to achieve deep, economy-wide reductions in carbon pollution. As detailed in Acadia Center's July report[1], RGGI's model of capping emissions and reinvesting auction revenue in consumer programs has been a source of significant benefits for the region. Since the program began in 2009, regional electricity prices have fallen by an average of 2% and the RGGI states have received $2.7 billion in net economic benefits from the program. Power sector emissions have fallen by 35%, and according to a Duke University study released earlier this summer, a significant portion of these emissions reductions were caused by market participants adjusting to carbon pricing.[2]

Key Findings

- EPA's Final CPP targets have been modified to level the playing field between leading and opportunity states
- Final CPP targets will still require reforms to strengthen RGGI
- Necessary reforms will allow states to achieve 27% of their economy-wide GHG reduction requirements through RGGI
- Without strengthening reforms RGGI will deliver only 1% of state GHG reduction requirements
- Reducing electric sector emissions through RGGI is the most effective means of achieving economy-wide GHG reduction requirements

As RGGI states and observers prepare for the program's next chapter, both federal and state requirements will be important. Federal requirements of the CPP validate RGGI's approach, but will require additional actions. Reflecting RGGI's success, the final version of the CPP encourages the use of multi-state mass-based trading programs. The CPP – and particularly the backup trading-based Federal Implementation Plan – provides a nudge for other states to build on RGGI's successful model by establishing their own regional carbon markets or by participating in the RGGI program itself. In determining state by state targets under the final CPP, EPA took steps to level the playing field between early acting and opportunity states. States with more carbon-intensive generation profiles have more stringent targets under the final CPP, while states that have already taken proactive measures received more relaxed targets from EPA. This change should drive emissions reductions beyond EPA's 32% by 2030 projection, as states yet to act are now required to do more, while early-acting states are likely to go above and beyond their new targets.

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[1] Acadia Center, July 2015: *RGGI: A Model Program for the Power Sector*, available at http://acadiacenter.org/document/rggi-a-model-program-for-the-power-sector-2015-update/

[2] CO_2 emissions from 2009-2012 were 19% lower than they would have been without RGGI, accounting for a larger share of emissions reductions than the economic downturn or increased generation from natural gas. Nicholas Institute, Duke University, August 2015, *Why Have Greenhouse Emissions in RGGI States Declined? An Econometric Attribution to Economic, Energy Market, and Policy Factors*, available at: http://www.sciencedirect.com/science/article/pii/S0140988315002273

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RGGI Compliance and Necessary Changes

The design of the final CPP will allow the RGGI states to use their multi-state trading model to meet the targets set by EPA. The RGGI states will likely choose to comply by demonstrating that their 2030 regional cap will be lower than the sum of individual state targets provided by EPA. While the RGGI states are well positioned to use their trading program for CPP compliance, a number of changes will be necessary to align the program with EPA's framework and to ensure RGGI's future as an effective means of limiting carbon pollution. The first of these changes, and the most straightforward, is the extension of the RGGI cap. The current cap has been set to 2020, and RGGI cap levels will need to be extended to 2030 in order to meet EPA's requirements. Determining the path of the post-2020 cap will be a focus of the 2016 RGGI Program Review, and it will be important for the RGGI states to consider their long-term goals as part of this discussion.

Eight of the nine RGGI states have ambitious economy-wide GHG reduction targets for 2050, rooted in the need to reduce emissions 80% by 2050[3] in order to mitigate the impacts of global climate change.[4] To meet these goals, the RGGI states will have to reduce regional emissions by 311 million tons from 2012 levels, and the power sector will have to play a major role in this effort. In 2012, power plants covered by RGGI accounted for 22% of the region's total GHG emissions. In order to achieve the emissions reductions necessary to meet 2050 climate goals and EPA's 2030 CPP targets, the RGGI states will need to establish more aggressive cap levels going forward. The RGGI cap as currently structured will not guarantee compliance with the CPP, nor will it put the RGGI states on a path to meet their long-term goals.

RGGI State	2050 Economy-Wide GHG Target
Connecticut	80% below 2001
Maine	75-85% below 2003
Maryland	90% below 2006
Massachusetts	80% below 1990
New Hampshire	80% below 1990
New York	80% below 1990
Rhode Island	75-80% below 2002
Vermont	75% below 1990

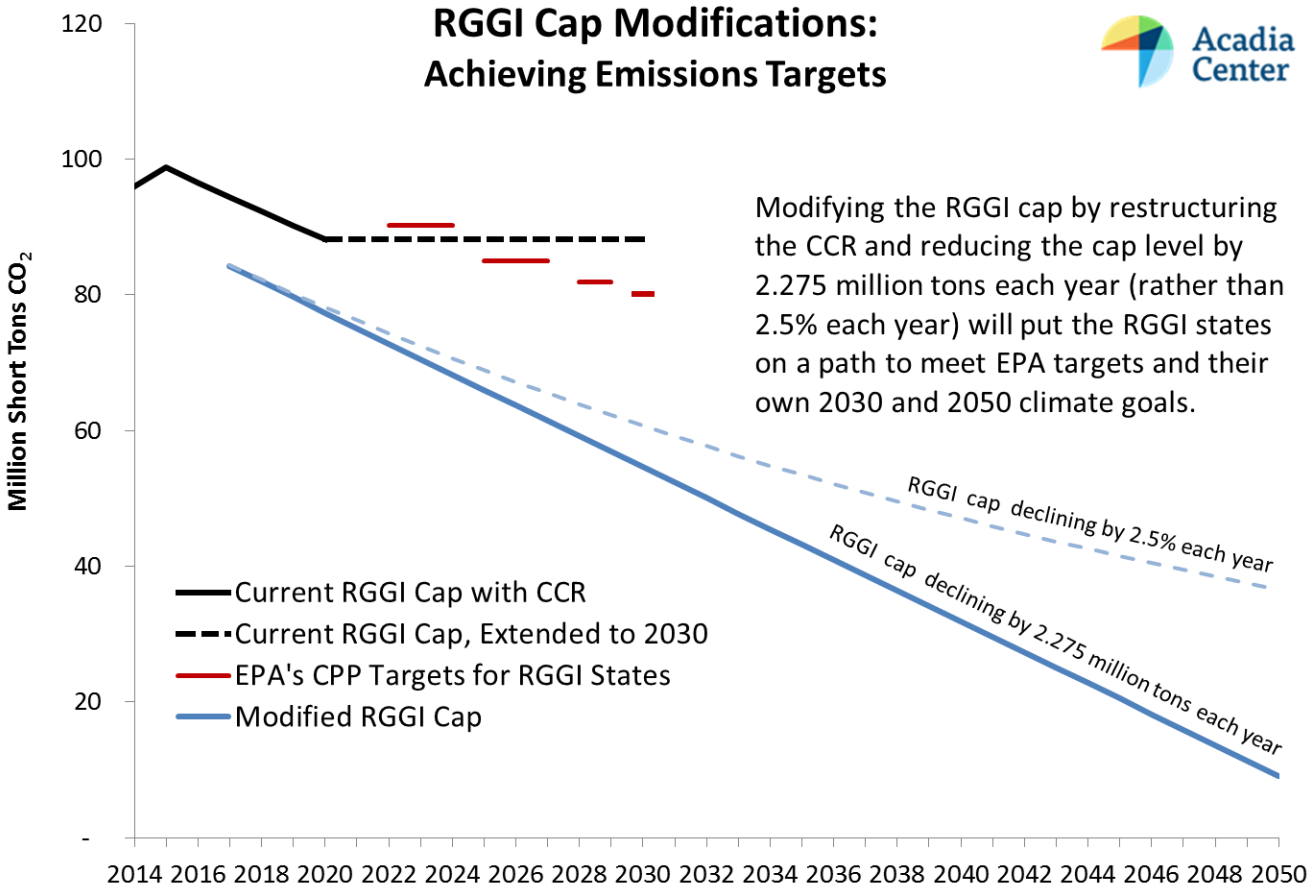
Two changes to the RGGI model could fix the program's shortcomings:

- Aligning the RGGI cap trajectory with long-term state GHG reduction requirements, which can be achieved through a fixed annual decline that achieves a cumulative 90% reduction in power sector emissions by 2050.
- Restructuring or removing the cost containment reserve (CCR) mechanism, which, as currently structured, allows for the release of additional allowances for purchase when designated price thresholds are met. All 15 million of the available allowances through 2015 have been purchased, and the release of 10 million allowances at the September 9th auction effectively inflated the 2015 RGGI budget by 15%. Restructuring the CCR design to draw

[3] Intergovernmental Panel on Climate Change, *Climate Change 2014: Synthesis Report*, available at: http://www.ipcc.ch/report/ar5/syr/

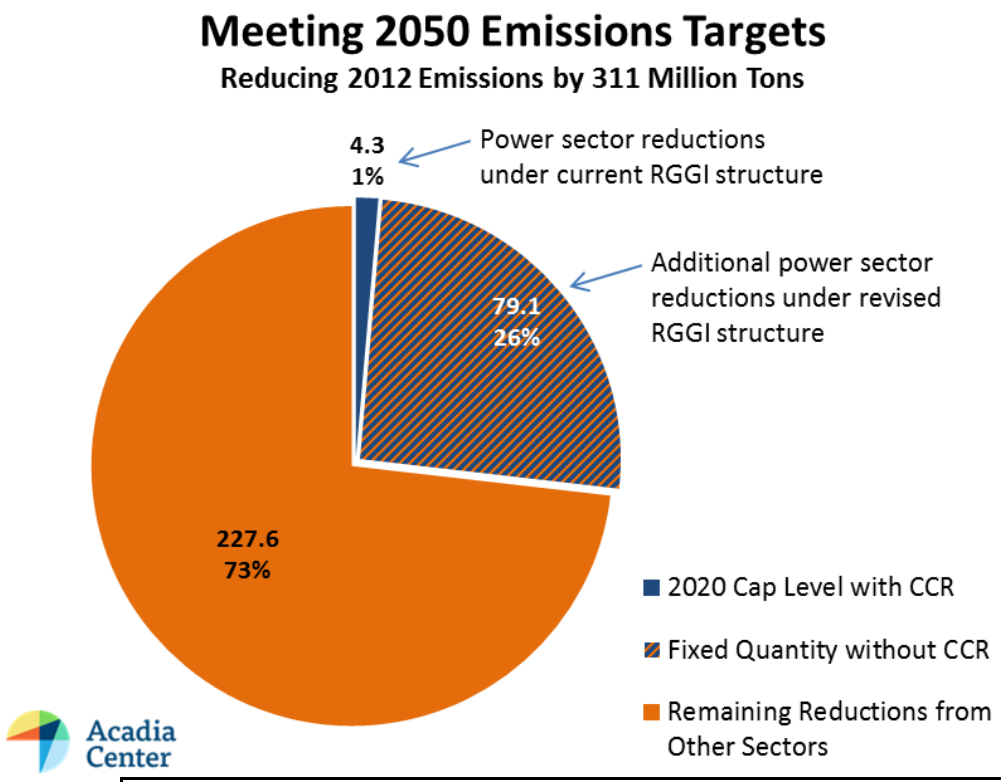
[4] Many of the RGGI states have 2030 GHG reduction targets in addition to their 2050 targets. The 2015 New York State Energy Plan calls for a 40% reduction in emissions by 2030, while the governors of the six New England states, in conjunction with the premiers of the Eastern Canadian provinces, recently agreed to reductions of 35%-45% by 2030.

allowances from under the existing cap level would help to ensure future environmental performance by limiting the overall quantity of allowances to a level that reflects reduction targets. Drawing allowances from under the cap is an approach that has been effectively utilized in California's cap and trade program.[5]



Implementing these two reforms through the upcoming 2016 Program Review will put RGGI on a better course to deliver the necessary emissions reductions to meet states' 2050 economy-wide targets. As shown in the figure below, with these two modifications RGGI would reduce power sector emissions 83 million tons from 2012 levels by 2050, which constitutes 27% of the economy-wide reduction total—a sufficient quantity to avoid an overdependence on more costly emissions reductions from other sectors.

[5] For more information on the RGGI program modifications: Joint Stakeholders, May 2015, *RGGI Reform Principles: Program Revisions to Increase Environmental and Economic Benefits*, available at: http://acadiacenter.org/wp-content/uploads/2015/05/2016-Program-Review-Principles_Final.pdf

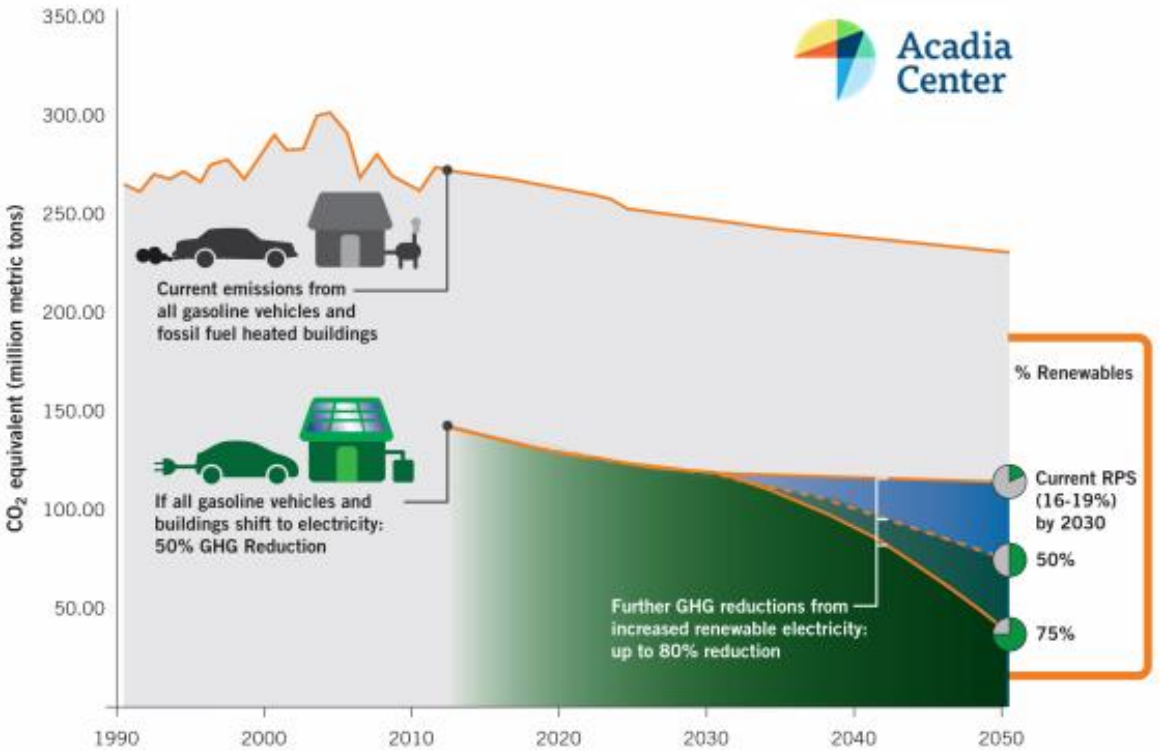


	Economy-Wide Emissions (million short tons)			
State	Baseline (Baseline Year)	2012	2050 Goal (% Reduction from Baseline)	Reductions from 2012 to Meet 2050 Goal
Connecticut	45.8 (2001)	38.2	9.2 (80%)	29.1
Delaware	-	15.5	15.5 (0%)	-
Maine	26.1 (2003)	17.6	6.5 (75%)	11.1
Maryland	85.5 (2006)	67.7	8.6 (90%)	59.2
Massachusetts	91.5 (1990)	69.3	18.3 (80%)	51.0
New Hampshire	16.1 (1990)	16.3	3.2 (80%)	13.1
New York	229.0 (1990)	180.3	45.8 (80%)	134.5
Rhode Island	12.9 (2002)	11.7	3.2 (75%)	8.4
Vermont	6.1 (1990)	6.1	1.5 (75%)	4.6
Total	**513**	**423**	**112 (22%)**	**311**

Reducing electric sector emissions through RGGI is likely the most effective means of achieving states' GHG requirements. Achieving fewer emissions reductions from the power sector would require potentially costlier reductions in emissions from transportation and industry. Cutting emissions 80% across the economy requires essentially replacing fossil fuel use in transportation and building heating with the use of electricity to power electric vehicles and heat pumps that are increasingly competitive with fossil-based technologies. Acadia Center's 2014 EnergyVision report[6] found that replacing all of the region's gasoline-powered cars with EVs and heating systems with heat pumps would immediately

[6] Acadia Center, February 2014, *EnergyVision: A Pathway to a Modern, Sustainable, Low Carbon Economic and Environmental Future*, available at: http://acadiacenter.org/document/energyvision/

decrease the region's emissions by 50%, due to the higher efficiency of heat pumps and EVs and relatively low-GHG profile of the region's power sector.



Once these efficient electric technologies replace fossil fuel use in the transportation and heating sectors, additional reductions must be achieved by continuing to clean up the electric sector that 'fuels' heat pumps and EVs. Establishing RGGI cap levels that will continue to drive emissions reductions and expedite the transition to a cleaner power sector will be imperative to meeting the region's long-term, economy-wide climate goals. Moreover, the RGGI states could build on the program's success in the power sector by expanding RGGI to cover other sectors like industry and transportation. Economy-wide carbon pricing programs have already produced emissions reductions and economic benefits in California[7] and British Columbia[8].

Strengthening RGGI and including other sectors in the program would put the states on a path to meet their 2050 goals, while yet again demonstrating national leadership on climate action.

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This document can be found online at: http://acadiacenter.org/document/whats-next-for-rggi

[7] California Delivers, 2015, *Bringing Real Benefits to California Consumers*, available at: http://www.cadelivers.org/wp-content/uploads/2014/11/CAdelivers-ConsumersFactSheet-FINAL5715.pdf
[8] Clean Energy Canada, 2015, *How to Adopt a Winning Carbon Price*, available at: http://cleanenergycanada.org/wp-content/uploads/2015/02/Clean-Energy-Canada-How-to-Adopt-a-Winning-Carbon-Price-2015.pdf