

Joint Stakeholder Comments on the RGGI Program Review

May 9th, 2016

Our organizations welcome the opportunity to submit comments in response to questions presented by RGGI states at the April 29th, 2016 stakeholder meeting. We additionally provide comments on topics that arose at the meeting and are important for states to consider as the Program Review progresses. These topics include policy scenarios for modeling, revisions to the cost containment reserve, adjustment for banked allowances, and updates to the draft reference case assumptions.

The 2016 Program Review should address important issues relating to CPP compliance, but it should also be approached as an opportunity for the RGGI states to meet their own greenhouse gas (GHG) reduction goals and make progress toward deep, economy-wide reductions in carbon pollution. We applaud the RGGI states for individually establishing 2030 and 2050 GHG targets in order to avoid the worst impacts of climate change, and we urge states to use RGGI as a core policy tool to achieve economy-wide reductions. We are encouraged by announcements that a number of RGGI states will pursue market-based policies to reduce emissions in the transportation sector, and continued electric sector emission reductions will likely be a critical component of a lowest-cost pathway to achieving the necessary emissions reductions.¹

1) Policy Scenarios for Modeling

Commenters are deeply appreciative of the leadership that the RGGI states have shown over the past decade to combat the threat of climate disruption through the RGGI program. Through their own internal and collective planning processes, all of the RGGI states have identified 2030, and in all but one instance 2050, climate goals that call for transformative change in both the electric sector and other sectors of the economy. Achieving this transformative change will necessitate a continuing decline in electric sector emissions from the RGGI states between 2020 and 2030. Given the RGGI program's track record of success in capping and reducing electric sector emissions, Commenters believe that adjusting the RGGI cap is the best and most appropriate way to lock in region-wide 2030 electric sector emission levels consistent with states' 2030 and 2050 climate goals.

To achieve RGGI states' 2030 and 2050 climate goals and to continue RGGI states' climate leadership, commenters urge the RGGI states to establish a declining cap trajectory between 2020 and 2030 that is consistent with least-cost compliance with state climate goals. Commenters look forward to continuing to engage with the RGGI states about how best to

¹ Modeling for the Waxman-Markey Bill determined that "[e]lectric power supply and use represents the largest source of emissions abatement" when considering an economy-wide program. *EPA Analysis of the Waxman Markey Discussion Draft*, 2009, available at: <http://www3.epa.gov/climatechange/Downloads/EPAactivities/WMA-Analysis.pdf>

translate states' 2030 climate goals into an appropriately calibrated electric sector emission cap. One point, however, is clear. At least through 2030 the electric sector will need to continue to account for the bulk of the overall emission reductions. While reducing emissions from the transportation sector is a critical piece of reaching states' long-term climate goals, progress in the transportation sector is incremental, tracking in large part turnover of the vehicle fleet and necessitating significant penetration of low and zero-emitting vehicles. Commenters applaud the recent announcement by a number of the RGGI states to investigate a transportation pricing policy aimed at achieving reductions of 32 to 40 percent by 2030 in the transportation sector and also generating proceeds to fund the transportation investments.² This represents a laudable and important step toward reducing transportation sector emissions. However, even with these emission reductions, steep additional cuts will still be required in the electric sector. As shown in recent analysis prepared for the Connecticut Governor's Council on Climate Change (GCCC), the climate benefits of electrification of the vehicle fleet depend heavily on continued decarbonization of the electric sector.³ This makes setting an appropriately stringent RGGI cap essential for RGGI states' efforts in the transportation sector. As Clarke *et al.* (2014) concluded based on nine top energy-environment-economy models that looked at reducing economy-wide domestic greenhouse gas emissions by 50% and 80% by 2050, achieving a 50% reduction in economy-wide greenhouse gas emissions necessitates a 75% reduction in emissions from the electric sector.⁴ Given that low-cost, zero emission power generation alternatives are available today, RGGI states are well positioned to achieve similar levels of electric sector emission reductions over the next fifteen years.

Commenters urge the RGGI states to model a number of scenarios consistent with achieving or exceeding state 2030 and 2050 climate goals:

- "Model Run #2," as proposed by the RGGI states at the February 2nd stakeholder meeting,⁵ which models a cap that declines, beginning in 2021, by a fixed annual quantity of allowances equivalent to 2.5% of the 2020 cap level, and eliminates CCR allowances and offsets.
- Model a cap that declines, beginning in 2021, by a fixed annual quantity of allowances equivalent to 5% of the 2020 cap level, through 2030, and eliminates CCR allowances and offsets.

² See Five Northeast States and DC Announce They Will Work Together to Develop Potential Market-Based Policies to Cut Greenhouse Gas Emissions from Transportation (Nov. 24, 2015), <http://www.georgetownclimate.org/five-northeast-states-and-dc-announce-they-will-work-together-to-develop-potential-market-based-poli>.

³ See Connecticut Dept. of Energy & Env'tl. Protection, GC3 Analysis, Data, and Metrics Working Group Meeting Presentation (Mar. 10, 2016), at Slide 14, available at: http://www.ct.gov/deep/cwp/view.asp?a=4423&Q=568878&deepNav_GID=2121.

⁴ Leon E. Clarke et al., Technology and U.S. Emissions Reductions Goals: Results of the EMF 24 Modeling, *The Energy Journal*, Vol. 1, at 9, 21 (Special Issue 1: The EMF24 Study on U.S. Technology and Climate Policy Strategies) (2014) (noting that "electricity is the least-challenging sector to decarbonize directly so it takes on the largest initial emission reductions.").

⁵ 2016 Program Review IPM Modeling Scenarios, available at: [http://www.rggi.org/docs/ProgramReview/2016/02-02-16/2016 Program Review IPM Modeling Scenarios.pdf](http://www.rggi.org/docs/ProgramReview/2016/02-02-16/2016%20Program%20Review%20IPM%20Modeling%20Scenarios.pdf).

2) Cost Containment Reserve Revisions

In order to preserve RGGI's environmental integrity the CCR should either be restructured or eliminated. Since the current CCR was established in 2014, 15 million CCR allowances have been purchased, which effectively raises the RGGI cap and undermines the program's environmental integrity. If the CCR remains in place as currently structured, up to 50 million additional tons of CO₂ could be allowed in the RGGI states from 2016-2020.

If the RGGI states choose to retain the CCR, it should be modified so that CCR allowances do not increase the overall quantity of allowances and allowable emissions. This could be achieved by adjusting future cap years downward for the quantity of allowances used to fill the CCR, thus ensuring that aggregate emissions limits are not exceeded, while preserving a mechanism to mitigate price volatility. This approach would also avoid the prohibition in the Clean Power Plan against borrowing allowances from future years.⁶

A similar approach is currently being used in California's emissions trading program where prices have been stable.⁷ Like the RGGI CCR, in California's program additional allowances become available for purchase when price thresholds are met. Unlike the RGGI CCR, CA's price containment reserve is populated with allowances from below the cap – about 4% of CA's original number of allowances from the capped budget are set aside in the reserve – preserving the state's carbon emissions limit and the environmental integrity of the program.

Should the RGGI states continue to use a CCR, price thresholds should also be increased. The presence of a CCR is justifiable if it serves to mitigate price spikes in times of unexpected and exceptional circumstances. CCR allowances should not be expected to be purchased under normal market conditions, as they have been in 2014 and 2015. Additionally, market observers indicate that low CCR trigger prices may actually be pulling prices *up*,⁸ which runs directly counter to the objective of the CCR. By raising the CCR price thresholds, the RGGI states will dissuade market participants from triggering the CCR under business-as-usual circumstances. This is the approach that California has successfully used for setting CCR trigger prices. California's 2016 reserve allowances first become available at \$47.54 per allowance,⁹ while the

⁶ 60.5815 [Requirements for Mass Allocation]

(a) For a mass-based trading program, a State plan must include requirements for CO₂ allowance allocations according to paragraphs (b) through (f) of this section....(f) Provisions not allowing any borrowing of allowances from future compliance periods by affected EGUs

⁷ EDF, *Carbon Market California: A Comprehensive Analysis of the Golden State's Cap-and-Trade Program*, http://www.edf.org/sites/default/files/content/carbon-market-california-year_two.pdf

⁸ Commenters at the April 29th Learning Session on the Cost Containment Reserve, in particular Judith Schröter, Lead Analyst US Carbon & Offset Markets at the trade publication ICIS, indicated that market participants were increasing bids to CCR threshold levels in order to earn more allowances.

⁹ 2016 Annual Allowance Price Containment Reserve Notice, December 1, 2015:

http://www.arb.ca.gov/cc/capandtrade/auction/2016_reserve_sale_apcr_notice.pdf

market's most recent auction settlement price was \$12.73.¹⁰ Setting CCR trigger prices at or closer to California's levels (or using a comparable multiplier to CA's current ratio, such as 4:1, for CCR trigger prices relative to expected allowance prices in RGGI) would provide the additional benefit of moving toward market alignment.

3) Adjustment for Banked Allowances

We commend the RGGI states for implementing the first two rounds of interim adjustments for banked allowances. These actions will effectively remove the allowance surplus that resulted from RGGI's initial, over-allocated cap. This approach also ensures that those who purchased RGGI allowances during the first two control periods will not be disadvantaged as a result of these market adjustments. Recent RGGI market trends suggest that a significant allowance surplus is building again, and we recommend that the RGGI states take similar action to account for that undesired outcome. In both 2014 and 2015, RGGI emissions fell below nominal cap levels while all available allowances, including those from the CCR, were purchased. This means that the RGGI allowance surplus has increased by 25 million tons over that two-year period (cumulative RGGI emissions have fallen 10 million tons below cap levels and 15 million CCR allowances have been purchased).

The RGGI states' Model Run #1 scenario assumes that no allowance surplus is carried over into the 2020-2030 modeling timeframe. This assumption is justified if we also assume that the RGGI states will carry out an adjustment for banked allowances before the 2020-2030 period. If that is not accepted as default policy, additional modeling will need to be conducted to understand how many banked allowances will exist and be carried over as compliance instruments beyond 2020.

4) Trading with Other States

The RGGI states have demonstrated that multi-state trading offers distinct advantages over single-state approaches to reducing carbon emissions from the power sector. Larger emissions markets create more flexibility, expand opportunities for cost-effective emissions reductions, and raise greater quantities of revenue for reinvestment in consumer and clean energy programs. Uniform market rules also facilitate efficient planning and investment decisions. As a result of RGGI's strong track record and leadership, dozens of states are now considering establishing mass-based programs in order to meet the requirements of the CPP.

The creation of these programs presents an opportunity to follow through on RGGI's goal of creating a model national program for other states to emulate or adopt. As RGGI states go beyond disseminating best practices to consider trading with other states and regions,

¹⁰ CA-QC Joint Auction Summary Results Report, February 24, 2016:
http://www.arb.ca.gov/cc/capandtrade/auction/feb-2016/summary_results_report.pdf.

standards should be established to ensure consistent program design, avoid market distortions, and preserve RGGI's high standards of environmental performance.

In order to build on RGGI's sound design precedents and ongoing improvements, and to promote best outcomes from trading with these new markets, the RGGI states should establish the criteria that potential trading partners must meet. Key areas of focus for these criteria are laid out below, and we look forward to elaborating on these criteria as the Program Review progresses and programs in other states take shape.

Cover both existing and new sources

In order to avoid emissions leakage to new power plants, we recommend that the RGGI states limit trading to programs that cover both existing and new sources. By covering existing and new sources, the RGGI model accurately and fairly accounts for total emissions from the power sector. Covering emissions from existing sources without covering new units would send inconsistent signals to market participants, creating a bias towards new sources of generation. While states that wish to cover only existing sources are required by EPA to establish provisions to avoid leakage from existing to new sources, the simplest and fairest solution would be for states to require that both existing and new sources are subject to the same standards and price signals.

The inclusion of new sources should be an explicit precondition for any state that wishes to trade with RGGI.

Confirm that partner states have completed an environmental justice analysis, consistent with EPA's requirements in the Clean Power Plan rule

We strongly support the requirements in the final Clean Power Plan for ensuring the meaningful participation of affected communities, including low-income communities and communities of color. These communities often bear a disproportionate share of the pollution burden from power generation and likewise often live in locations that are vulnerable to the direct impacts of climate disruption with few options available to mitigate these impacts. Therefore we urge the RGGI states to confirm that partner states have reached out to those impacted communities and solicited their feedback and participation in their own planning process, and that those states have conducted environmental justice analyses, consistent with EPA's requirements in the Clean Power Plan rule, with a goal of identifying any potential inequalities that may be created so that they can be proactively addressed.

Ensure that polluters pay for allowances

In order to avoid market distortions, RGGI states should endeavor to pursue trading with programs that auction allowances. If RGGI were to trade with a state that distributes allowances to generators for free (i.e., based on historical emissions or some other such approach), entities in the new market receiving those free allowances would have a competitive advantage over RGGI region generators.

Direct allowance value to consumer benefit programs

RGGI's best practice of using allowance value for consumer benefit should be promoted through discussions related to linkage. RGGI states are investing the majority of auction revenue (59% during the second control period, 2012-2014) in energy efficiency programs that reduce consumers' bills and reduce demand for power. Lower power demand means fewer emissions from power plants, and less money leaving the region to pay for imported fossil fuels. Consumers' energy bill savings are spent in part within the local economy, benefiting businesses that offer goods and services in the region. Independent macroeconomic analysis found that programs supported with revenue raised over RGGI's first six years of operation would generate over \$1.73 billion in energy bill savings.¹¹ These savings create over \$2.76 billion in net economic gains and 28,500 job-years of employment.¹²

For example, prospective trading partners should be encouraged to dedicate a minimum percentage of allowance value to consumer benefit, similar to the 25% requirement for consumer benefit that RGGI states have far exceeded in practice.

Preserve allowance value through an allowance floor price or comparable mechanism

The achievements of RGGI states in reducing emissions and raising substantial revenue to invest in consumer programs are significant and should be built on in discussions related to linkage by ensuring that allowances prices remain at levels sufficient to deliver additional emissions reductions and preserve adequate funding levels. Trading with new partners would result in allowance price convergence between RGGI and the new trading partners, which presents a risk that RGGI allowance prices would fall below the RGGI floor price. This outcome could be avoided by requiring that trading partners establish an allowance floor price consistent with RGGI's, requiring a demonstration that allowance prices in nascent markets fall within RGGI's acceptable range (e.g., higher than RGGI's floor price for twelve consecutive months), or through other comparable mechanisms.

Requiring prospective trading partners to adopt a floor price similar to RGGI's or establishing a comparable mechanism would provide additional safeguards for RGGI and facilitate broader use of RGGI's auction platform. Trading with states that share common price controls would also avoid market distortions and ensure minimum funding levels for programs—both in RGGI and in other states—supported with allowance revenue. Without adequate price controls in trading partners' programs, RGGI compliance entities could choose to buy allowances from trading partners when prices in trading partners' programs fell below the RGGI floor. This could increase demand for trading partners' allowances and could cause prices for those allowances

¹¹ Analysis Group, 2015, *The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States*, available at: http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/analysis_group_rggi_report_july_2015.pdf

¹² These figures are based on the combined findings from two separate reports from the Analysis Group, the first of which covered impacts from 2009 through the first half of 2011 (New Jersey impacts have been excluded from this analysis), the second report covering 2012-2014. As a result, the combined benefits included above only account for five and a half years of revenue reinvestment, rather than the full six years from 2009-2014.

to rise. When prices rise above the RGGI floor price, an infusion of RGGI allowances could function as an effective cost-containment mechanism, but could do so at RGGI's floor price rather than at a higher price targeted for cost containment. Additionally, if allowance prices outside the RGGI region remain below the RGGI floor price, RGGI states could sell no allowances, depriving clean energy and consumer programs of revenue needed to support program goals. A number of analyses have shown that marginal abatement costs outside the RGGI region may be below RGGI's current floor price, which could diminish allowance revenues in RGGI if trading partners do not adopt floor prices.

5) Updates to Draft Reference Case Assumptions

We appreciate the efforts by the RGGI states to continue to improve the predictive accuracy of the reference case modeling. As the states begin to move into the policy scenario phase of the modeling, it is particularly critical that these runs build from an accurate baseline. To that end, we appreciate the recent inclusion in the most recent reference case modeling of New York's Clean Energy Standard, the extensions of the Investment and Production Tax Credits, and the use of National Renewable Energy Laboratory rather than Energy Information Administration cost projections for renewable energy, which in general are more reflective of actual renewable costs. Including these updates in the reference case produced significantly different results from those presented in February regarding the anticipated generation mix in the region through 2031. We believe that two further updates to the reference case are important to further improve the predictive accuracy of the modeling and increase confidence in the accuracy of the reference case and policy scenario models built from similar assumptions.

A. Absent State-Specific Adjustments to Account for Energy Efficiency in the New England Region, the RGGI States Should Incorporate ISO-NE's Recently Finalized 2016 CELT for Load Projections for the New England States

We acknowledge and appreciate New York's revision of its 2030 load forecast based on its State Energy Plan. We remain concerned, however, that load forecasts outside of New York continue to be overstated. Many of the RGGI states lead the country in energy savings from energy efficiency (EE) programs. In part driven by the success of these programs, for New England, the actual compound annual growth rate (CAGR) from 2005 to 2014 was negative 0.8%.¹³ That is, annual load has declined by an average of 0.8% per year in New England for the decade from 2005 to 2014. And the efficiency programs that contributed to these reductions in load continue to produce robust savings and are projected to do so into the future. Nevertheless, the full scope of energy savings from these programs has not been well captured by ISO-NE load forecasts. As Acadia Center documented in its November 20, 2015 reference case comments, ISO-NE has consistently over-forecasted load.¹⁴ Consequently, despite the

¹³ See http://www.iso-ne.com/static-assets/documents/2016/04/isone_fcst_data_2016.xls.

¹⁴ Comments of Acadia Center filed with RGGI.org (Nov. 20, 2015), at 2 (plotting ISO-NE forecasts of annual load against actual weather-normalized annual load).

trajectory of declining growth over the past decade, ISO-NE in its 2015 CELT projected a nearly flat CAGR of -0.04% for the 10-year period from 2015-2024 once estimates of behind-the-meter solar photovoltaic (PV) and energy efficiency (EE) resources were accounted for.

On May 2, 2016, ISO-NE released its final 2016 CELT. The 2016 CELT revises load growth downward by approximately 0.2% per year. Consequently, the 10-year forecasted CAGR from 2016-2025 is now negative 0.25% (after accounting for projections of behind-the-meter solar PV and EE resources).¹⁵ We believe it is critical for the RGGI states to fully incorporate required and foreseeable energy savings from energy efficiency portfolio standards and state energy efficiency requirements. If state-specific adjustments to account for required and foreseeable energy savings attributable to EE programs cannot be incorporated, we recommend that states, at a minimum, incorporate the recently released ISO-NE 2016 CELT forecast. While the updated 2016 forecast still likely underestimates solar PV and EE resource growth in New England, and thus overestimates load, it nevertheless offers a more realistic projection of future load growth in New England than did last year's CELT, which the states are currently using in their modeling.

B. To Improve the Predictive Accuracy of Renewable Cost Assumptions, the RGGI States Should Incorporate Projections from NREL's 2016 Annual Technology Baseline

Although it has not been finalized, the National Renewable Energy Laboratory (NREL) has released its 2016 Annual Technology Baseline (ATB).¹⁶ The 2016 ATB shows continuing cost declines for renewables, particularly solar power. For example, NREL projects significant declines in the cost of utility solar photovoltaic (PV) resources as compared to the 2015 ATB.^{17,18} Solar technologies have shown a remarkably consistent decline in prices, and significant further declines are projected to be feasible.¹⁹ To reflect the most current and accurate trends in renewable pricing, the RGGI states should incorporate projections from NREL's 2016 ATB into the reference case modeling.

C. The RGGI States Should Provide Additional Clarification Regarding Certain Reference Case Assumptions

We respectfully request that the RGGI states provide clarification regarding certain assumptions in the reference case. Specifically, we request clarification regarding the following issues:

¹⁵ See http://www.iso-ne.com/static-assets/documents/2016/04/isonet_fcst_data_2016.xls.

¹⁶ See http://www.nrel.gov/analysis/data_tech_baseline.html.

¹⁷ NREL, 2016 Annual Technology Baseline – Discussion Draft (Mar. 18, 2016), at Slide 136, available at http://www.nrel.gov/analysis/data_tech_baseline.html.

¹⁸ NREL, 2016 Annual Technology Baseline – Discussion Draft (Mar. 18, 2016), at Slide 136, available at http://www.nrel.gov/analysis/data_tech_baseline.html.

¹⁹ DOE/NREL, Sunshot Vision Study (Feb. 2012), available at <http://energy.gov/eere/sunshot/sunshot-vision-study> (The DOE/NREL Sunshot Vision study, which constructs a detailed roadmap for continued cost declines in solar PV technologies, projects that solar system prices can drop 75% between 2010 and 2020).

- (1) It appears that C.P. Crane Units 1 and 2 are not modeled as firm retirements in 2020 despite the intentions expressed in EIA Form 860.²⁰ Why not?
- (2) It appears that Bridgeport Harbor Station Unit 3 is not modeled as a firm retirement in 2021 despite the existence of a Community Environmental Benefit Agreement, which was recently finalized by PSEG and the City of Bridgeport, that requires the unit to retire by July 1, 2021.²¹ Why not?
- (3) Are all state renewable portfolio standards with escalating requirements that extend beyond 2020 fully incorporated into the modeling in the form of “firm” builds of renewables? If not, how does the model incorporate RPS obligations that extend beyond 2020?
- (4) Does the model assume that any Canadian hydropower resources will be procured during the modeled time horizon? Three New England states – Connecticut, Rhode Island, and Massachusetts – are currently conducting a joint procurement of hydroelectricity and renewable energy. While renewable energy may be accounted for in RPS assumptions, if states fail to account for hydropower purchases they will be overestimating emissions.
- (5) To the extent that Regional Transmission Organization (RTO) load forecasts do not extend through 2030 (e.g., ISO-NE’s CELT forecasts load only out 10 years), how are the RGGI states extrapolating load for the remaining years?

Thank you for your time and attention to these comments,

Acadia Center
 Appalachian Mountain Club
 Chesapeake Physicians for Social Responsibility
 Conservation Law Foundation
 Environment America
 Environment Connecticut
 Environment Maine
 Environment Maryland
 Environment Massachusetts
 Environment New Hampshire
 Environment New York
 Environment Rhode Island
 Environmental League of Massachusetts
 Natural Resources Defense Council
 Pace Energy and Climate Center
 Sierra Club
 Vermont Energy Investment Corporation

²⁰ See EIA Form 860 (Generator), available at <https://www.eia.gov/electricity/data/eia860/>.

²¹ Executed Feb. 25, 2016.