RGGI Program Review

September 25, 2017
12:30 PM - 4:30 PM ET

• Presentation materials posted at the Program Review Meetings webpage
Meeting Agenda

12:30  Welcome and Meeting Procedures
12:40  Maryland Commissioner(s) Remarks
12:55  IPM Policy Case Modeling Results: Presentation
1:20   IPM Policy Case Modeling Results: Questions/Comments
1:40   Customer Bills Analysis: Presentation
2:05   Customer Bills Analysis: Questions/Comments
2:30   Break
2:45   Draft Proposed Model Rule Amendments: Presentation
3:30   Draft Proposed Model Rule Amendments: Questions/Comments
4:00   Other Questions/Comments/Discussion
4:20   Next Steps and Adjournment
RGGI Program Review

- RGGI is the nation’s first mandatory market based program to limit CO₂ emissions.

- At the conclusion of the 2012 Program Review, the states committed to commencing another Program Review in 2016.

- During the current Program Review process, states:
  - Conducted electricity sector, CO₂ emissions, and macro economic analyses;
  - Consulted extensively with stakeholders and market experts.
• Covered emissions are more than 45% below 2005 levels.

• RGGI’s auctioning of allowances has especially been praised as an innovative program design element. These quarterly regional auctions have generated more than $2.7 billion in proceeds for reinvestment in strategic programs to benefit consumers and build a stronger and cleaner energy system in the RGGI states.

• To maintain a working market the cap needs to be adjusted.

• Additional opportunities exist to make the successful RGGI program even more effective and efficient.
Proposed Model Rule Amendments

Outline:
- Size and Structure of the Cap
- Adjustments for Banked Allowances
- Cost Containment Reserve (CCR)
- Emissions Containment Reserve (ECR)
- Offsets
- Reserve Price
- Miscellaneous
Size and Structure of Cap
(Model Rule XX-5.1)

- The Updated Model Rule contains language for the CO₂ allowance base budgets for allocation years 2018-2030.

- The Updated Model Rule includes a regional cap of 75,147,784 tons of CO₂ in 2021 which will decline 2.275 million tons per year thereafter, resulting in a total 30% reduction in the regional cap from 2020 to 2030.
Adjustments for Banked Allowances
(Model Rule XX-5.3)

The Updated Model Rule contains language to address the private bank of allowances held by market participants via Adjustments for Banked Allowances.

- The Third Adjustment for Banked Allowances would adjust the base budget for 100 percent of the pre-2021 vintage allowances held by market participants as of the end of 2020, that are in excess of the total quantity of 2018, 2019, and 2020 emissions.

- The third adjustment timing and algorithm are provided in the Model Rule and would be implemented over the 5 year period 2021-2025 after the actual size of the 2020 vintage private bank is determined.

- Market participants may continue to bank allowances.
Adjustments for Banked Allowances
(Model Rule XX-5.3 – Illustrative Example)

- As an illustrative example only, the following chart assumes that the private bank of allowances (2020) is 25 million tons.

- In the example below:
  - A reduction to the budget is made for 100% of the private bank of allowances over a 5 year period (2021-2025).

<table>
<thead>
<tr>
<th>Third Adjustment for Banked Allowances</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional CO₂ Budget (tons)</td>
<td>75 M</td>
<td>73 M</td>
<td>71 M</td>
<td>68 M</td>
<td>66 M</td>
</tr>
<tr>
<td>Third Adjustment (tons)</td>
<td>5 M</td>
<td>5 M</td>
<td>5 M</td>
<td>5 M</td>
<td>5 M</td>
</tr>
<tr>
<td>After Third Adjustment (tons)</td>
<td>70 M</td>
<td>68 M</td>
<td>66 M</td>
<td>63 M</td>
<td>61 M</td>
</tr>
</tbody>
</table>
An Adaptive Cap

If market disruptions cause a price spike, the CCR increases supply.

Current Regulations
Base Cap
Adjusted Cap
ECR
CCR

Bank Adjustments remove surplus from the market early on.

The ECR tightens the cap further if reductions are inexpensive.
CCR and ECR Price Triggers

RGGI Allowance Price ($/ton, nominal)

CCR Trigger Price

ECR Trigger Price

Modeled Price Range

Auction Reserve Price

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Cost Containment Reserve (CCR)
(Model Rule XX-1.2, XX-5.3, XX-9)

The Model Rule contains language for the continued use of a cost containment reserve (CCR) that will provide flexibility and cost containment for the program.

- The Model Rule contains language for an annual CCR sized at 10% of the regional cap beginning in 2021 and each succeeding year thereafter.
- Allowances from the CCR would be fully fungible.
- The CCR allowances would be made available immediately in any auction in which demand for allowances at prices above the CCR trigger price exceeds the supply of allowances offered for sale in that auction prior to the addition of any CCR allowances.
- If the CCR is triggered, the CCR allowances would only be sold at or above the CCR trigger price.
- The CCR Trigger Price will be $13.00 in 2021 and rise at 7% per year, so that the CCR will only trigger if emission reduction costs are higher than projected.
How the ECR Works

The CCR is...
A reserve from which allowances are released
If prices are high

The ECR is...
A reserve into which allowances are diverted
If prices are low

If triggered, either would act during the auction

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How the ECR Works
(Illustrative Example – No ECR)

Auction in 2021 of ~17.5 million tons (25 million ton bank adj.)
Illustrative Bid Stack

Bids ordered from highest $/t to lowest; ex: Bid A is 3mt at $7.50/t

Bid H sets clearing price of $4/t; 17.5 million tons sell

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How the ECR Works
(Illustrative Example – ECR Triggers)

Auction in 2021 of ~17.5 million tons (25 million ton bank adj.)
Illustrative Bid Stack with 6.8 million ton ECR at $6/t

Bid E sets final clearing price of $5.50/t; 10.7 million tons sell

Bid H sets interim clearing price of $4/t; 17.5 million tons sell

ECR withholds 6.8 mt from auction below $6/t

Bid H is marginal before ECR
The Model Rule contains language for the creation and use of an emissions containment reserve (ECR) that will respond to supply and demand in the market if emission reduction costs are lower than projected.

States will withhold allowances from circulation to secure additional emissions reductions if prices fall below established trigger prices.

At this time, Maine and New Hampshire do not intend to implement an ECR. Allowances withheld in this way will not be reoffered for sale.

- The Model Rule contains language for an annual ECR allowance withholding limit of 10% of the budgets of states implementing the ECR.

- The ECR trigger price will be $6.00 in 2021, and rise at 7% per year, so that the ECR will only trigger if emission reduction costs are lower than projected.
Offsets
(Model Rule XX-1.2, XX.10.0)

To simplify the use of offsets, the updated Model Rule:

• Retains a 3.3% offset limitation for compliance.

• Eliminates two offsets categories — SF₆ and End-Use Energy Efficiency.

• Provides that any awarded offset allowances would remain fully fungible across the states.

• Includes minor edits for clarification.

• Contains updates for all documents incorporated by reference.
Reserve Price
(Model Rule XX-1.2)

- The minimum reserve price in calendar year 2021 will be $2.38.
- The Model Rule retains language stating that each calendar year thereafter, the minimum reserve price shall be 1.025 multiplied by the minimum reserve price from the previous calendar year, rounded to the nearest whole cent.
Miscellaneous
(Model Rule XX-2.6)

Delegation by CO₂ authorized account representative (AAR) and alternate CO₂ authorized account representative (AAAR).

- Allows an AAR or AAAR to delegate to one or more persons his/her authority to have view-only access and review information in COATS ("Reviewer").
Questions / Comments

Remote participants should send any questions/comments via email to info@rggi.org.
What’s Next: Anticipated Outlook

- Release of final Model Rule Amendments and any additional analyses or materials by the end of 2017.
- State-specific rulemaking processes to begin as soon as possible, with timelines varying by state.
- Goal of completing state-specific statutory and/or regulatory amendments consistent with the updated Model Rule by as early as January 2019, with program changes to be in place and effective by January 2021.
- Initiation of another program review in 2021 to evaluate energy trends, performance of the revised program elements, and overall program design.
Other / Discussion

Questions / Comments

Remote participants should send any questions/comments via email to info@rggi.org.
What’s Next: Stakeholder Comments

- Written comments are requested by 5:00 PM ET on Friday, October 6, 2017.

- Please send comments by e-mail to info@rggi.org.

- Written comments will be posted on the Program Review webpage.
Adjournment

Thank you!
The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort of nine Northeast and Mid-Atlantic states to regulate and reduce carbon dioxide (CO₂) emissions from the power sector. In accordance with each state's independent legal authority, Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New York, Rhode Island, and Vermont (Participating States) each commit to propose statutory and/or regulatory approval revisions to their CO₂ Budget Trading Programs substantially consistent with the updated Model Rule released on December 19, 2017 (updated 2017 Model Rule). The Participating States further agree on principles that will guide the states in proposing these revisions, in working together to implement their CO₂ Budget Trading Programs, and in seeking to reduce greenhouse gas emissions in the region.

Background on Program Review

As called for in the RGGI 2012 Program Review's Summary of Recommendations to Accompany Model Rule Amendments, the Participating States conducted a second program review of the CO₂ Budget Trading Program. Proposed amendments to the program have been incorporated in an Updated Model Rule which will guide each of the Participating States as it follows its own statutory and/or regulatory procedures to propose updates to their individual state CO₂ Budget Trading Program regulations.

The RGGI program review was a rigorous and comprehensive evaluation, supported by an extensive regional stakeholder process that engaged the regulated community, environmental nonprofits, consumer and industry advocates, and other interested stakeholders. The Participating States have been working with program review stakeholders since 2015, convening 9 stakeholder meetings and webinars. The program review has sought to ensure RGGI's continued success – effectively reducing CO₂ emissions while providing benefits to consumers and the region.

Program Review Findings

The Participating States have based their findings upon consideration of relevant information and analyses, including but not limited to:

- Retrospective analyses of CO₂ emissions trends;
- Electricity sector and CO₂ emissions modeling;
- Macroeconomic modeling;
- Customer electricity bills analyses; and
- Stakeholder engagement and comments.
The program review revealed:

- The Cost Containment Reserve (CCR) had been triggered on two occasions, in 2014 and 2015, at times when a significant private bank of allowances (allowances in excess of the quantity necessary to surrender for compliance) already existed.
- After the significant cap reduction made as part of the 2012 Program Review, actual emission levels in all years continue to trend below the level of the cap.
- The adjustments for the bank of allowances implemented as part of the 2012 Program Review will likely not be sufficient to balance the supply and demand of allowances due to the additional allowances injected from the CCR and the trend of actual emission levels less than the cap.
- The offset provisions in the Model Rule have not been significantly utilized.
- Each of the RGGI states have made longer-term (to 2030 and in most cases also to 2050) commitments for economy-wide greenhouse gas emission reductions. Reductions from the electric sector will be instrumental to achieving economy-wide reductions as the transportation and space heating sectors electrify to meet greenhouse gas emission reductions in those sectors.
- Complementary energy policies implemented by the states are and will continue to be significant drivers of emission reductions of carbon dioxide and criteria pollutants (e.g. sulfur dioxide, particulate matter, oxides of nitrogen, and volatile organic compounds).

Proposed Model Rule Amendments

In response to those findings, the Participating States are proposing to specify a regional cap through 2030, modify the size and trigger prices for the CCR, establish an Emissions Containment Reserve (ECR), and eliminate two of the existing offset categories, as outlined below and in the Updated Model Rule:

1. **Revised Regional Cap:** The Participating States will specify a regional cap through 2030 which continues the downward trajectory of the existing cap. The lower regional CO₂ emissions cap will align the cap more closely with current emissions trends.
   - A regional cap of 75,147,784 tons of CO₂ in 2021, which will decline by 2.275 million tons of CO₂ per year thereafter, resulting in a total 30% reduction in the regional cap from 2020 to 2030.
   - The Participating States will address the bank of allowances held by market participants with a third adjustment for banked allowances. The third adjustment will be made over a 5-year period (2021-2025) based upon the size of the bank at the end of 2020.
# Regional Greenhouse Gas Initiative

an Initiative of the Northeast and Mid-Atlantic States of the U.S.

<table>
<thead>
<tr>
<th>Year</th>
<th>Base Cap</th>
<th>Bank Adjustment</th>
<th>Adjusted Cap</th>
<th>CCR Trigger Price ($)</th>
<th>ECR Trigger Price ($)</th>
<th>CCR Size</th>
<th>ECR Size</th>
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<tr>
<td>2020</td>
<td>78,175,215</td>
<td>21,891,408</td>
<td>56,283,807</td>
<td>$10.77</td>
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<td>$7.35</td>
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<td>2025</td>
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<td>TBD</td>
<td>$17.03</td>
<td>$7.86</td>
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<td>$23.89</td>
<td>$11.02</td>
<td>5,467,278</td>
<td>4,978,425</td>
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</table>

2. **CCR:** The Participating States will modify the size and the price triggers for the CCR. The CCR is a reserved quantity of allowances, in addition to the cap, that would only be available if defined allowance price triggers are exceeded.
   - Beginning in 2021, allowances provided within the CCR will be equal to 10% of the regional cap.
   - The CCR trigger price will be $13.00 in 2021, and rise at 7% per year, ensuring that the CCR will only trigger if emission reduction costs are higher than projected.

3. **ECR:** The Participating States will establish an emissions containment reserve (ECR), which is a quantity of allowances that will be withheld from circulation to secure additional emission reductions if prices fall below established trigger prices.
   - The states implementing the ECR will withhold up to 10% of the allowances in their base budgets per year. At this time, Maine and New Hampshire do not intend to implement an ECR. Allowances withheld in this way will not be reoffered for sale.
   - The ECR trigger price will be $6.00 in 2021, and rise at 7% per year, ensuring that the ECR will only trigger if emission reduction costs are lower than projected.

4. **Offsets:** The Participating States will eliminate two offset categories, reduction in emissions of sulfur hexafluoride (SF6) in the electric power sector and end-use energy efficiency in the building sector, and update and retain three categories that some States may continue to implement. Any awarded offset allowances will remain fully fungible across the states.
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5. **Minimum Reserve Price:** The Model Rule retains language to increase the minimum reserve price by 2.5 percent each year.

**Principles**

The following principles will guide the Participating States in proposing individual state revisions to statutes or rules based on the Updated Model Rule, in working together to implement their CO₂ Budget Trading Programs, and in seeking to reduce greenhouse gas emissions in the region.

I. **State Legislation and/or Rulemaking:** Each Participating State commits to seek to establish in statute and/or regulation amendments to its CO₂ Budget Trading Program substantially consistent with the Updated Model Rule and to have that State's component of the regional program changes effective as soon as practical and no later than January 1, 2021.

II. **Program Review:** The Participating States will conduct ongoing program evaluation to continually improve RGGI. The Participating States intend to initiate comprehensive program review no later than 2021 to consider program successes, impacts, potential additional reductions to the cap post-2030, and other program design elements.

III. **Complementary Energy Policies:** The Participating States recognize many benefits of complementary clean energy policies, including:

- Creating jobs and stimulating economic development through the transition to a clean energy economy;
- Reducing the costs of compliance with the RGGI cap;
- Reducing the potential for emissions leakage attributable to increased imports from outside RGGI;
- Bringing additional functions (i.e., heating, transportation) within RGGI's market-based mechanism through electrification and the growth of "beneficial load";
- Assisting each state in meeting its own GHG reduction goals;
- Supporting the reliability of the electricity grid;
- Enabling continued progress towards mitigating climate change.

The Participating States are striving to implement complementary policies or mechanisms that will result in carbon emission reductions in the electricity sector and economy-wide. These policies could include programs to promote:
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- Renewable energy
- End-use energy efficiency
- Energy storage
- Carbon capture and storage
- Electric vehicles and infrastructure
- Transit and transit-related development
- Electrification of heating

The Participating States strive to:
- Continue existing programs, and develop new programs through 2030 at levels needed to achieve each state’s GHG reduction goals.
- Collaborate on efforts such as renewable energy policy, electricity system planning, and energy markets design and operations in order to achieve these goals most cost-effectively.
- Meet periodically to assess progress on achieving these goals and identify additional opportunities for mutually beneficial collaboration.
- Ensure that any future updates or changes to the RGGI program take into consideration the ambitious renewable energy commitments by the RGGI states.

IV. Emissions Leakage: The Participating States commit to engage in a collaborative effort supported by RGGI state staff and informed by discussions with their respective ISOs, to monitor and track relevant data to evaluate potential emissions leakage, and to work to address any emissions leakage that may be identified through this tracking.

V. Broader Carbon Markets: The Participating States recognize the benefits of a broader trading market and are open to conversations with other jurisdictions.