



Andrew McKeon, Executive Director
RGGI, Inc.
90 Church Street, 4th Floor
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By email to info@rggi.org

November 2, 2023

Re: RGGI Program Review Comment, Response to September 26, 2023 Public Meeting

Dear Mr. McKeon:

Thank you for the opportunity to submit comments in response to the topics for public consideration presented at the September 26 public meeting. I was not able to attend the meeting in person and therefore did not have the opportunity to ask any questions about the methodology and assumptions utilized in the electricity sector analysis. I have e-mailed these questions to RGGI staff involved in the modeling and reserve the right to submit additional comments on this topic.

1. **Annual Compliance.** PFPI supports the proposal to require full annual compliance for power generators.
2. **RGGI Emissions Dashboard:** The dashboard as designed does not provide sufficient transparency for sound policymaking. The dashboard should include all electric generating units (EGUs) with CO₂ emissions within the RGGI states, not just the current RGGI-covered facilities. This would enable policymakers and the public to identify areas where further emissions reductions are needed and make subsequent changes to the Model Rule and/or state implementing policies.

As PFPI noted in our previous comments on the Third Program Review,¹ according to RGGI, Inc.'s CO₂ monitoring data, total tons of CO₂ emissions from non-fossil fuel-fired

¹ Partnership for Policy Integrity, RGGI Program Review Comments, January 2022, available at https://www.rggi.org/sites/default/files/Uploads/Program-Review/2021_Comments/Session3/PFPI_Public_Comment_2022-01-31.pdf

EGUs *more than doubled* from 2005 to 2018.² Non-fossil fuel-fired EGUs in the nine-state RGGI region emitted 18,005,228 tons of CO₂ in 2018 - or 19.4% of the total tons of CO₂ from in-region electricity generation. This information could easily be incorporated into the RGGI emissions dashboard, and would provide a more complete picture of CO₂ emissions changes within the power sector in the RGGI states over time. Smaller EGUs (under 25 MW) should also be included, at a minimum down to 15 MW.

- 3. Electric Sector Analysis:** The modeling of different allowance supply scenarios appears to have included some erroneous assumptions concerning renewable electricity generation.³ There is an apparent assumption that the various state renewable energy and clean energy policies adopted in the RGGI states will only advance zero-emission energy such as wind and solar. This is not defensible. Most of the RGGI states include biomass in their renewable energy policies and assume biomass combustion is carbon neutral in their climate policies. *RGGI's own Model Rule treats whole trees logged for energy as zero-carbon* – a notion that has been thoroughly debunked in the science for over a decade – and most of the RGGI states have adopted similar language in their own definitions of “eligible biomass.” Likewise, it is premature to assume that the federal funds available under the Inflation Reduction Act and the Bipartisan Infrastructure Law will only go to truly zero-emission technologies.

The science is clear that net CO₂ emissions from biomass combustion exceed fossil fuels for decades to centuries, depending on various factors, including the biomass used, the fossil fuel that is replaced, and the efficiency with which it is burned.⁴ Direct stack emissions of CO₂ from biomass power plants are 50% higher than coal plants, per megawatt hour.⁵ RGGI already gives the existing fleet of highly inefficient wood-burning power plants in the Northeast a “free pass” to pollute, because stand-alone biomass plants

² RGGI, Inc. CO₂ Emissions from Electricity Generation and Imports in the Regional Greenhouse Gas Initiative: 2018 Monitoring Report (March 11, 2021), Table 1 at pp. 16-17). Available at https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2018_Elec_Monitoring_Report.pdf

³ As noted above, PFPI has submitted written questions to RGGI, Inc. about the methodology and assumptions utilized in the electricity sector analysis that were not addressed in the slide presentation.

⁴ Two comprehensive meta-analyses on the topic of greenhouse gas emissions of woody biomass energy, Buchholz et al. (2016) and Bentsen (2017), summarize the full breadth of quantitative studies conducted over the past 25 years that assess the extent of carbon impacts/benefits incurred by burning biomass to produce energy. Thomas Buchholz, et al., *A global meta-analysis of forest bioenergy greenhouse gas emission accounting studies*, GCB Bioenergy, (Mar 2016), <https://onlinelibrary.wiley.com/doi/abs/10.1111/gcbb.12245>; Niclas Bentsen, et al., *Carbon debt and payback time – Lost in the forest?*, Renew. Sustain. Energy Rev, (Jun 2017), <https://www.sciencedirect.com/science/article/pii/S1364032117302034>. See also Mary S. Booth, *Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy*, Envl Research Letters, (Feb. 21, 2018), <https://iopscience.iop.org/article/10.1088/1748-9326/aaac88>.

⁵ Mary S. Booth, *Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal*, (PFPI), April 2014, at <https://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf>

are not covered under the cap, and permits coal plants that cofire with biomass to treat emissions from “eligible biomass” as zero. Unless safeguards are put in place, the most stringent scenario modeled (C-4, which includes the highest amount of renewables and establishes zero allowances by 2035) could perversely result in an *increase* in CO₂ emissions in the RGGI states by driving an increase in biomass energy.

Based on our review of the draft IPM matrix and the PowerPoint presentation for the September 26th meeting, it appears that the modelers did not consider the potential for increased biomass energy use when conducting their analysis. Slide 29 (“11-State RGGI Capacity Mix (2023 – 2035)”) shows no growth in “Other” fuel use between now and 2035 under any of the modeled scenarios. (“Other” and “other RE” are not defined, but presumably would include woody biomass and other biogenic fuels.)

As the RGGI allowances decline, **unless there is significant state and federal policy reform** there will be increased incentive for all non-fossil fuel energy sources, particularly biomass power, not just zero-emission renewable energy like wind, solar and battery storage as the draft analysis projects. Any modeling that assumes no growth in biomass energy resulting from any of the scenarios, or that biomass energy is zero-emission, will undercount the CO₂ emissions projections.

This is what has happened in Europe as a result of the Renewable Energy Directive (RED), which counts biomass combustion towards member states’ renewable energy targets, and the EU Emissions Trading System (ETS), which treats biomass combustion as carbon neutral. Biomass energy consumption has more than doubled across the EU since 1990, with most of this increase occurring since 2002, after the EU issued its first directive including biomass as renewable energy. More than 60% of the EU’s renewable energy (heat and power) now comes from bioenergy, most of which is burning forest wood. This has had enormous adverse consequences. The EU lost about a quarter of its annual carbon uptake in the land sector between 2002 and 2020, with increased logging for biomass fuel responsible for much of this loss. Many member states are on the verge of losing their forest and land carbon sinks or have lost them altogether. At current rates of decline, most EU member states will fail to reach their 2030 land sink targets, putting climate targets and the goal of ‘net zero’ carbon emissions out of reach. Meanwhile, development of wind and solar resources has lagged, as billions in renewable energy subsidies have been poured into biomass power plants.⁶

In sum, the electric sector analysis does not appear to reflect the real-world potential consequences of the various scenarios. Assuming that bioenergy is zero emission ignores the science, assuming that current state and federal incentives will only promote wind and

⁶ Mary S. Booth and Ben Mitchell, *Paper Tiger: Why the RED II biomass sustainability criteria fail forests and the climate*, (PFPI), July 2020 at <http://eubiomasscase.org/wp-content/uploads/2020/07/RED-II-biomass-Paper-Tiger-July-6-2020.pdf>; Mary S. Booth, *Burning up the carbon sink: How the EU’s forest biomass policy undermines climate mitigation, and how it can be reformed*, (PFPI), November 4, 2022, at <https://forestdefenders.eu/wp-content/uploads/2022/11/PFPI-Burning-up-the-carbon-sink-Nov-7-2022.pdf>

solar ignores the policy, and assuming that higher allowance prices will not drive growth in bioenergy capacity ignores the economics. Unless these modeling assumptions are corrected, or the underlying policies in RGGI reformed to properly account for CO₂ emissions from biomass energy, it is impossible to gauge how CO₂ emissions from the power sector within the RGGI states will change based on different allowance scenarios.

PFPI remains concerned that the unintended consequences of existing state and federal clean energy policies, combined with an accelerated RGGI cap phasedown, will spur an expansion of biomass energy in the RGGI states, resulting in increased CO₂ emissions from the power sector, adverse impacts on forests in the Northeast, higher energy costs, and health harms to frontline communities. **For these reasons, PFPI does NOT support the zero by 2035 allowance scenario.** We believe far more can be accomplished to reduce emissions from the power sector and alleviate health impacts on frontline communities by expanding the scope of the RGGI program to cover all combustion-based EGUs over a certain minimum size threshold, not just fossil fuel EGUs of 25 MW or larger.

4. **EJ Issues.** Biomass power plants, garbage incinerators, and other combustion-based EGUs not currently covered under RGGI are highly polluting and, like their fossil fuel counterparts, disproportionately sited in environmental justice communities. Concerns about impacts of power plant pollution on frontline communities have been raised repeatedly throughout the Third Model Review, but there appears to be little progress made in addressing these concerns. Any inventorying or mapping of air pollution data in the RGGI states should consider emissions from all EGUs, not just covered units, to ensure that equity issues are fully addressed.

Thank you for your consideration of these comments.

Sincerely,



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