

November 29, 2021

VIA EMAIL

Regional Greenhouse Gas Initiative, Inc.
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Dear RGGI Inc. and RGGI State Commissioners and Staff,

Reducing emissions from the power sector continues to be a key priority for the Southern Environmental Law Center. In Virginia, we worked with our partners for years in order to implement its emissions reduction program for power plants—participating in work groups with the administration, advocating throughout the long regulatory process, and finally helping to advance legislation in 2020. On January 1, 2021, Virginia began participating in the Regional Greenhouse Gas Initiative (“RGGI”), the first southern state to do so. Through just three quarterly auctions, Virginia has raised \$142 million, half of which is being used to support low income energy efficiency programs, while 45 percent is devoted to a loan and grant program for communities dealing struggling with flooding. In North Carolina, SELC successfully petitioned its environment agency to participate in the Regional Greenhouse Gas Initiative as well.

We see the value in this market-based approach, and have seen the success participating states have had in reducing power plant emissions. We appreciate your work on this next program review. While we support the existing model rule, we believe several important changes need to be made.

I. Update Overall Allowance Supply and Annual Reductions to Reflect Current Science and New Policies and Requirements

Much has changed in the emissions landscape since the last program review. In order to ensure that participation in RGGI remains effective at driving down emissions, the allowance supply and annual reduction levels moving forward will need to be adjusted to reflect the current science and new policies and statutory requirements.

Scientific consensus continues to show aggressive emissions reductions are needed to stabilize global warming. The IPCC’s recent climate report is unequivocal—we will overshoot both 1.5°C and 2°C this century unless drastic greenhouse gas emissions reductions occur soon.¹

This increased urgency is being translated into stronger policies for the electricity sector. The United States, for example, has set a goal to reach 100 percent carbon pollution-free electricity by 2035. States have also begun requiring accelerated fossil fuel phase outs. In Virginia, for example, Dominion Energy and Appalachian Power must retire multiple carbon dioxide-emitting facilities by 2024 and

¹ IPCC (2021). *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Summary for Policy Makers, at 14, <https://www.ipcc.ch/report/ar6/wg1/#SPM>.

2028, and all of their remaining fossil units by 2045.² Through a new renewable portfolio standard, Dominion must provide carbon-free energy to its customers by 2045 and Appalachian Power must do so by 2050.³ At the same time, the utilities are required to significantly ramp up energy efficiency savings.⁴ By 2025, for example, Dominion must achieve 5 percent energy savings from its efficiency programming as compared to 2019 retail sales, while Appalachian Power must hit 2 percent energy savings.⁵ Moreover, 50 percent of Virginia’s revenues from its participation in the RGGI auctions, are directed to low-income energy efficiency programs,⁶ helping struggling families reduce their energy bills while further reducing emissions in the Commonwealth. These Virginia requirements—which were not in effect when Virginia first finalized its participation in RGGI—will have a large impact on Virginia’s business-as-usual emissions. Dominion, for example, is Virginia’s largest emitter in the electricity sector and a major player in the RGGI auctions, currently purchasing approximately 20 percent of all allowances at each quarterly auction.⁷

Likewise, North Carolina’s participation in this regional effort is premised on a cap designed to achieve 70 percent emissions reductions by 2030 as compared to 2005 levels.⁸

The Regional Greenhouse Gas Initiative is a valuable tool that can drive down emissions in cost-effective ways. We look forward to working with you and other stakeholders to ensure the overall allowance supply and annual reductions are updated to reflect these new realities.

II. Cover All Biomass Emissions

Burning wood (or forest biomass of any type) to generate electricity immediately adds large quantities of carbon dioxide to the atmosphere. In fact, combustion of forest biomass emits more carbon dioxide per unit of energy generated than fossil fuels like coal or natural gas.⁹ Even storing woodchips prior to

² Va. Code § 56-585.5 B. The law allows for extremely limited exceptions to this retirement requirement. See *id.* B 4.

³ *Id.* § 56-585.5 C.

⁴ *Id.* §§ 56-585.1 A 5 c & 56-596.2.

⁵ *Id.* § 56-596.2.

⁶ *Id.* § 10.1-1330 C 2.

⁷ Ex. 25, Rebuttal Testimony of George E. Hitch, Petition of Virginia Electric and Power Company For Approval of a Rate Adjustment Clause, Designated Rider RGGI, Under § 56-585.1 A 5 e of the Code of Virginia, Case No. PUR-2020-00169 (Apr. 13, 2021) at 6:3-5, <https://scc.virginia.gov/docketsearch/DOCS/4%251r01!.PDF>.

⁸ Clean Air Carolina and N.C. Coastal Federation, Petition for Rulemaking Pursuant to N>C.G.S § 150B-20 and 15 A NCAC 021.0501 to Adopt Rules to Limit CO2 Pollution from the Electric Power Sector (Jan. 11, 2021), at 7 <https://files.nc.gov/ncoah/documents/Rules/Petitions/2021-01-11-Environmental-Management-Commission-Petition-for-Rulemaking-with-Attachments.PDF>.

⁹ U.S. Env’tl. Protection Agency, Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520 (July 8, 2019), <https://www.govinfo.gov/content/pkg/FR-2019-07-08/pdf/2019-13507.pdf>. Specifically, burning wood-based biomass emits 65% and 285% more CO2 per unit of energy generated than coal and natural gas, respectively. Rachel Carson Council, *Clear Cut: Wood Pellet Production, the Destruction of Forests, and the Case for Environmental Justice* at 5 (2019), <https://rachelcarsoncouncil.org/clear-cut/>; Fanous, Jamie, and William R. Moomaw. *A Critical Look at Forest Bioenergy: Exposing a High Carbon “climate Solution,”* 2 INTERNATIONAL JOURNAL OF SUSTAINABILITY IN HIGHER EDUCATION 3, 288-89 (2001) (reaffirmed at <https://sites.tufts.edu/gdae/files/2019/10/ClimatePolicyBrief8.pdf>)

burning emits may emit large amounts of methane, further contributing to the greenhouse gas emissions of this industry.¹⁰

Every phase of biomass electricity production emits greenhouse gases—including harvesting, processing, transporting, and combustion—quickly running up an enormous carbon debt.¹¹ In this way, forest-based bioenergy creates a carbon debt for at least the next 40 to 100 years, and potentially much longer or even indefinitely.¹² This timing remains a fundamental problem with biomass as the science continues to show that swift emissions reductions are needed now, not after 40 or 100 years. Moreover, even if we could afford to wait, there is no guarantee that the carbon released now will ever be sequestered through new forest growth sometime between 2060 and 2100.

Given the urgent need for emissions reductions and the immediate and significant emissions that biomass generates, there is no principled basis for the states participating in RGGI to allow any biomass facilities to avoid compliance. Biomass facilities, just like coal and natural gas burning facilities, should be required to account for their greenhouse gas pollution, and be incentivized to reduce such emissions over time. Any biomass facility—even one that co-fires with other fuels—should be required to purchase allowances for the carbon it emits.

This is a critical issue that must be fixed during this program review.

III. Eliminate Offsets

Offsets should be eliminated altogether. In many cases offsets do not truly negate the emissions impact from fossil fuel combustion, are subject to manipulation and questionable assumptions, and can be associated with other harmful environmental effects. Even though offsets can only be used for up to 3.3 percent of a facility's allowance obligations, even this small amount is unjustified.

For example, consider the fact that the current model rule permits offsets for certain agricultural methane projects. While reducing methane from agricultural sources is certainly an important objective, in practice many of these hog farms and lagoons have tremendously detrimental impacts to local air quality, waterways, and the health of nearby communities. A 2018 study published in the North Carolina Medical Journal found that residents who live near industrial hog operations that use the lagoon and sprayfield system have higher death rates from causes such as anemia, kidney disease,

¹⁰ Some studies estimate that methane emissions from wood chip storage at pellet mills alone could exceed the total greenhouse gas emissions of coal-generated electricity per unit of energy. See Mirjam Röder et al., *How Certain are Greenhouse Gas Reductions from Bioenergy? Life Cycle Assessment and Uncertainty Analysis of Wood Pellet-to-Electricity Supply Chains from Forest Residues*, 79 *BIOMASS AND BIOENERGY* 50 (2015), <https://sciencedirect.com/science/article/pii/S0961953415001166>.

¹¹ Duncan Brack, *Woody Biomass for Power and Heat: Impacts on the Global Climate* (Chatham House 2017), <https://www.chathamhouse.org/publication/woody-biomass-power-and-heat-impacts-global-climate>.

¹² See, e.g., John D. Sterman et al., *Does Replacing Coal with Wood Lower CO₂ Emissions? Dynamic Lifecycle Analysis of Wood Bioenergy*, 13 *ENVTL. RES. LETTERS* (2018), <http://iopscience.iop.org/article/10.1088/1748-9326/aaa512/meta>; Giuliana Zanchi et al., *Is Woody Bioenergy Carbon Neutral? A Comparative Assessment of Emissions from Consumption of Woody Bioenergy and Fossil Fuel*, 4 *GCB BIOENERGY* 761 (2012), <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1757-1707.2011.01149.x>; Thomas Buchholz et al., *When Biomass Electricity Demand Prompts Thinnings in Southern US Pine Plantations: A Forest Sector Greenhouse Gas Emissions Case Study*, 4 *Frontiers in Forests & Glob. Change* (2021), <https://www.frontiersin.org/articles/10.3389/ffgc.2021.642569/full>.

tuberculosis and low birth weight than resident who live further away from such operations.¹³ The study also found higher rates of low birth weight and infant hospitalization among residents who live near industrial hog operations.¹⁴ Duke researchers noted that these impacts are not the cause of multiple demographic, behavioral, or socioeconomic factors present, but rather are “due to the additional impact of multiple industrial hog facilities located in this area.”¹⁵

Given the often-questionable climate benefit, and the threat that some of these offset projects pose to human health and the environment, the model rule should not incentivize these programs.

IV. Strengthen Environmental Justice Protections

We also ask that the participating states and other stakeholders pay close attention to environmental justice concerns during this program review. While climate change affects all Americans, socially vulnerable and underserved communities—including low-income individuals and people of color—will be disproportionately harmed.¹⁶ These communities, for example, are more likely to face extreme temperatures and poor air quality, both of which can lead to significant health problems or death.¹⁷

As it stands, we believe that the states participating in RGGI are helping communities deal with the effects of climate change. By improving local air quality, for example, one study estimated that participating states have benefited by an estimated \$5.7 billion in just the first six years of the program, due to improved public health.¹⁸ In addition, socially vulnerable groups can benefit from direct use of auction proceeds. In Virginia, for example, 50 percent of proceeds go to low-income energy efficiency programs, and 45 percent go to communities dealing with recurrent flooding. For the flooding proceeds, at least 25 percent must go to low-income geographic areas.¹⁹

During this review, we ask that the states consider whether the program is helping vulnerable communities enough, and whether more can be done. The states should consider, for example, best practices for the use of the auction proceeds to help vulnerable communities. Moreover, the states should analyze whether there is any evidence that the market-based approach used by participating states has created any specific, individual “hot spots,” where a particular plant appears to be operating more frequently. Based on our research and existing analysis, we believe the opposite is true—that RGGI improves local air quality—but if sound research shows any hot spots do exist, the states should consider whether program adjustments need to be made to address or minimize this potential risk.

¹³ Julia Kravchenko et al., *Mortality and Health Outcomes in North Carolina Communities Located in Close Proximity to Hog Concentrated Animal Feeding Operations*, 79 N.C.MED. J. 278 (2018).

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ EPA, *Climate Change and Social Vulnerability in the United States* (Sept 2021), at 4, https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf.

¹⁷ *Id.*

¹⁸ Acadia Center, *The Regional Greenhouse Gas Initiative: Ten Years in Review* (Sept. 17, 2019).

¹⁹ Va. Code § 10.1-603.25 E.

As this program review is still in the early stages, there are other issues that we will likely need to address and reserve our right to do so. We look forward to working with all of the states and stakeholders to find common ground and improve this already successful program.

Sincerely,

A handwritten signature in black ink that reads "Nate Benforado". The signature is written in a cursive, flowing style.

Nate Benforado
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