Caiazza Comments on 2026 RGGI Operating Plan Amendment Update

Introduction

I am submitting these comments on the New York Research & Development Authority (NYSERDA) Regional Greenhouse Gas Initiative (RGGI) Operating Plan Amendment ("Amendment") for 2026 because the Plan needs to be re-focused with more emphasis on programs that directly, indirectly, or potentially reduce carbon dioxide (CO_2) from the electric generating units affected by RGGI. There are multiple programs in the amendment that do not fulfill that need. Failure to fully support emission reductions at RGGI-affected sources threatens the ability to achieve the emission reduction mandates of RGGI and the Climate Leadership & Community Protection Act (Climate Act).

I have been involved in the RGGI program process since it was first proposed. Dealing with the RGGI regulatory and political landscapes is challenging enough that affected entities seldom see value in speaking out about fundamental issues associated with the program. I have no such restrictions writing about the issues in the RGGI program. I have extensive experience with air pollution control theory, implementation, and evaluation having worked on every cap-and-trade program affecting electric generating facilities in New York including the Acid Rain Program, Regional Greenhouse Gas Initiative (RGGI) and several Nitrogen Oxide programs. The opinions expressed in these comments do not reflect the position of any of my previous employers or any other organization I have been associated with, these comments are mine alone.

Summary

NYSERDA has never acknowledged there is a disconnect between RGGI emission reduction requirements and its Operating Plan investments. Future emission reductions in the electric sector affected by RGGI cannot rely on fuel-switching emission reductions and retirements that have been responsible for most of the historic reductions. Instead, fossil-fueled generation must be displaced by zero-emissions generation. That obligation must receive adequate funding, or it will be impossible to meet the RGGI reduction requirements forcing affected sources to reduce operations or shut down. I have also included a discussion of the stakeholder process because I think it needs to be changed,

NYSERDA Operating Plan

NYSERDA designed and implemented a process to develop and annually update an Operating Plan which summarizes and describes the initiatives to be supported by RGGI auction proceeds. The latest Draft RGGI Operating Plan Amendment explains that

New York State uses RGGI proceeds to promote and implement programs for energy efficiency, renewable or non-carbon emitting technologies, and innovative carbon emissions abatement technologies with significant carbon reduction potential, in accordance with 21 NYCRR Part 507 and in compliance with the Climate Leadership and Community Protection Act (CLCPA).

This year, consistent with authorized RGGI uses, and to highlight the link between RGGI programmatic investments and core state priorities, we have organized our RGGI programmatic investments in terms of four themes, which are the following:

- Affordability: The programmatic investments under this theme focus on creating affordable, efficient, healthy, and comfortable homes and workplaces by deploying commercially available energy efficiency, building electrification, and renewable energy technologies.

- Energy abundance, diversity, and reliability: The programmatic investments under this theme focus on understanding and building out diverse energy options, including responsible renewable generation and storage, as well as modernizing energy system infrastructure, planning, and markets.

- Energy innovation and economic development: The programmatic investments under this theme focus on supporting economic growth and competitiveness, including enabling job, tax revenue, and supply chain growth; stimulating entrepreneurship and company growth in New York; and expanding public-private partnerships and investments.

- Thriving communities and environments: The programmatic investments under this theme focus on helping New Yorkers equitably participate and share in the benefits of the clean energy future; ensuring the energy transition provides meaningful benefits to local communities and disadvantaged communities; and improving climate resiliency and adaptation and public and environmental health.

Displacement of RGGI-affected source generation and emissions is not prioritized. Only one theme supports this requirement.

NYSERDA Operating Plan Amendment Stakeholder Process

On an annual basis, the Authority "engages stakeholders representing the environmental community, the electric generation community, consumer benefit organizations and interested

members of the general public to assist with the development of an annual amendment to the Operating Plan." Based on results, however, this engagement is in name only. NYSERDA's treatment of the stakeholder requirement is that it is simply an obligation and not an opportunity.

For example, I participated in the Advisory Stakeholder meeting held on December 5, 2024 and this year's meeting on December 18, 2025 The meeting exemplified the obligatory approach because when NYSERDA staff responded to questions there was no suggestion of any interest in the reason for the question.

In 2024, I asked one relevant question: How will NYSERDA address the need to make the necessary reductions to meet RGGI goals relative to the proposed investments recommended in the draft plan? Two people responded. The first explained:

> I'm happy to take this one and provide the best answer as I can. RGGI itself is the cap-and-invest program for the power sector. Proceeds generated from that program are then invested across multiple sectors by NYSERDA in order to help us achieve our market transformation that we're really trying to get to align with the goals of the Climate Act. We certainly not only seek to invest in programs that are providing those really low cost carbon reductions but also pursue the full complement of carbon reduction strategies across multiple sectors. We're trying to use these funds not only through direct investments but also to complement other funding sources that NYSERDA has access to and to really just leverage as much as we can to have the biggest impact. We are looking to drive some of those costs down. NYSERDA does regularly post RGGI status reports that offer more information about the carbon benefits associated with each of these programs and the budgets associated with each. I point anyone who's interested to learn more about those impacts to NYSERDA website and the details posted there.

The entire response talks about how RGGI proceeds are invested. I do not think that there is any recognition that RGGI also includes compliance obligations. In these comments and all my earlier comments, I have argued that NYSERDA Operating Plan funding priorities over emphasize Climate Leadership and Community Protection Act (Climate Act) initiatives at the expense of the electric generating unit RGGI emission compliance requirements. Another individual also responded to my question.

> Just to add on a bit to that with your education program officer here. I just know that RGGI is only one piece of what we do and one of our goals is really to catalyze private investments through market animating type of interventions and drive down the cost of carbon emission reductions from a variety of technologies. It's not really our

> assumption that New York State will need to pay for all of the greenhouse gas emission reductions to meet our goals. I just wanted to make that clear.

At the 2025 meeting I asked "RGGI is a program to cap and reduce CO2 emissions. Given that fuel switching is responsible for most of the observed productions and that is no longer a viable emission reduction strategy, has enough funding been allocated to provide the emission reductions needed for future program compliance?"

Karl Maas responded:

> Happy to answer. And thanks for the question. We do see the RGGI funding as being critical to advance the transition of our grid. It's clearly not the only funding stream. But we did highlight through both the large-scale generation programs for offshore wind and nuclear, the advanced fuels programs where we will see zero emission technologies coming out of there, our New York Sun programs, agrivoltaics and our grid modernization efforts. These are all going to directly and indirectly support our Clean Energy Standard and some of the other programs. I would also hope that we can notice that the energy efficiency programs we're doing will also help the grid. So, we both see the direct investments as core supporting policies for the Clean Energy Standard and the indirect benefits from energy efficiency programs.

NYSERDA ignores the fact that RGGI includes compliance obligations and only considers "our Clean Energy Standard and some of the other programs". This is particularly important because of the more stringent RGGI caps proposed in the 6 NYCRR Part 242 CO2 Budget Trading Program amendments.

I asked these questions because of my concern about compliance obligations. The responses do not acknowledge that there are any RGGI program considerations other than generating money and investing it wisely. The Operating Plan must consider compliance too.

NYSERDA emphasizes its use of stakeholder engagement when publicly discussing their work. At the December 18, 2024 Assembly Public Hearing on NYSERDA Spending and Program Review, John Williams, referred to stakeholder input. He said: "Our work is informed by stakeholder engagement and market research." When describing the disposition of $191 million budget item for RGGI allowance sales, he said: "The investments for those funds are informed by a stakeholder process." There was no similar claim this year.

I have participated in this process submitting comments on the Operating Plan for years and think that it is important to describe your stakeholder engagement. The reality is that NYSERDA goes through the motions of a stakeholder process. The NYSERDA Board only hears what the staff wants them to hear before they rubber stamp the approval of the Operating Plan. I published an article in February 2023 describing the approval process which exemplifies the process for every year that I have commented. I concluded that the only indication that someone read my comments is that I pointed out a typographical error that was corrected. There is no evidence supporting the John Williams claim to the Board that "The proposal you have was you know, does take those public feedback into account". The fact is that the recommendations of my two written comments were ignored.

I believe there are two missing pieces in the NYSERDA public stakeholder process. A published response to comments document like the Department of Environmental Conservation regulatory mandate is the first thing needed to instill confidence in the stakeholder process. The second piece is to take the stakeholder engagement response to comments seriously. For an example of how stakeholder engagement should be done, the Santa Clara County Rapid Transit Development Project includes a master plan for transportation for Silicon Valley. An interview with the founding manager notes: "Part of the plan is a four-year public stakeholder review process. In the reviews, if the public came up with good ideas, the ideas went into the plan. If an idea wasn't good, we had the responsibility of explaining why."[1]

I believe this approach would significantly improve NYSERDA public engagement. I would add one other thing. There might be issues that need to be resolved by further interaction so there should be a process for actual dialogue between NYSERDA and stakeholders. It may be that no resolution is possible for a particular issue. In that case, the documentation provided to the Board should note that the issue was not resolved and explain why. The Board of Directors needs to know if there are any issues of this type to make informed decisions.

Compliance Concern

In the next sections I will explain why NYSERDA Operating Plan funding priorities need to consider electric generating unit RGGI emission compliance requirements. I describe historical electric generating unit emission trends, the historical NYSERDA investments, the investments and resulting emission savings claimed in the NYSERDA statis reports, the proposed Operating Plan Amendment program investments, and I will summarize the impacts on RGGI compliance.

[1] "California's High-Speed Rail Visionary" Bill Buchanan, *Trains,* Volume 85, No. 1, January 2025, pages 30-37.

Historical Emissions

My concern about future emission reductions is rooted in the observed trend of New York electric utility emissions. The EPA Clean Air Markets Program Data database includes all the emissions data collected by every power plant in the United States since the mid-1990's. I used that data to show the emissions trend.

The EPA database includes information such as the primary fuel type of each generating unit. Table 1 lists the total annual CO2 data from all New York units that are required to report to EPA for any air pollution control program by fuel type. In 2000, New York EGU emissions were 57,114,439 tons and in 2024 they were 31,207,005 tons, a decrease of 45%. This table lists mass CO2 emissions by fuel type along with the emission rate or intensity. I believe that the fuel price differential for natural gas use was much greater than the added cost of RGGI allowances. This means the main driver of the observed reductions is economic fuel switching.

Table 1: New York Clean Air Markets Division Emissions Data for All Regulatory Programs

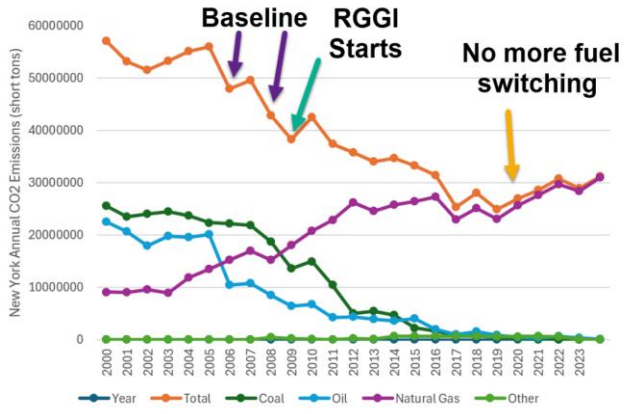
	CO2				
Year	Total	Coal	Oil	Natural Gas	Other
2000	57,114,439	25,546,641	22,488,241	9,079,557	0
2001	53,195,854	23,519,892	20,636,551	9,039,411	0
2002	51,546,524	24,073,494	17,924,260	9,548,770	0
2003	53,240,989	24,491,989	19,789,015	8,959,985	0
2004	55,125,941	23,673,988	19,574,349	11,877,605	0
2005	56,018,928	22,348,515	20,163,454	13,506,959	0
2006	47,912,271	22,183,541	10,487,480	15,241,249	0
2007	49,575,411	21,884,899	10,732,639	16,957,873	0
2008	42,844,448	18,679,355	8,515,621	15,205,001	444,472
2009	38,295,368	13,637,433	6,394,482	18,055,052	208,400
2010	42,563,848	14,950,792	6,716,334	20,808,056	88,666
2011	37,445,417	10,394,280	4,211,763	22,839,373	0
2012	35,800,053	5,030,164	4,358,456	26,224,818	186,615
2013	33,991,141	5,463,637	3,881,089	24,571,753	74,661
2014	34,692,016	4,667,127	3,581,905	25,785,100	657,883
2015	33,271,716	2,229,725	3,984,125	26,457,826	600,041
2016	31,440,500	1,588,950	1,934,603	27,301,230	615,717
2017	25,302,086	763,861	929,648	22,981,721	626,856
2018	28,025,772	703,377	1,567,127	25,119,035	636,234
2019	24,903,924	471,969	868,516	23,019,716	543,723
2020	26,920,636	174,360	476,741	25,675,000	594,535
2021	28,558,685	0	325,270	27,619,633	613,781
2022	30,818,867	0	604,475	29,707,409	506,983
2023	28,889,913	0	316,176	28,429,838	143,899
2024	31,207,005	0	158,183	31,048,822	0

Table 2 lists the reductions in New York since the start of RGGI. I calculated a pre-RGGI baseline by averaging annual data from 2006-2008. NYS 2024 CO2 emissions are 33% lower than RGGI baseline emissions. Note that the reduction percentage peaked in 2019 before Indian Point shut down and emissions increased. This table shows that coal and oil emission reductions were the primary drivers of the total emission reductions since the start of RGGI. Natural gas has increased to cover the generation from those fuels but because it has lower CO2 emission rates the New York emissions have gone down. Figure 1 plots these data. Note that fuel switching is no longer available as an emission reduction option. The Operating Plan should consider this observation when allocating auction proceeds because it is not clear how future emission reductions will be achieved to meet the more stringent RGGI caps proposed in the 6 NYCRR Part 242 CO2 Budget Trading Program amendments.

Table 2: New York State Emission Reductions

Year	RGGI CO2 Reductions		
	Annual	Delta	Delta %
Baseline	46,777,377		
2009	38,295,368	-8,482,009	-18.1%
2010	42,563,848	-4,213,528	-9.0%
2011	37,445,417	-9,331,960	-19.9%
2012	35,800,053	-10,977,324	-23.5%
2013	33,991,141	-12,786,235	-27.3%
2014	34,692,016	-12,085,361	-25.8%
2015	33,271,716	-13,505,660	-28.9%
2016	31,440,500	-15,336,877	-32.8%
2017	25,302,086	-21,475,291	-45.9%
2018	28,025,772	-18,751,604	-40.1%
2019	24,903,924	-21,873,452	-46.8%
2020	26,920,636	-19,856,741	-42.4%
2021	28,558,685	-18,218,692	-38.9%
2022	30,818,867	-15,958,509	-34.1%
2023	28,889,913	-17,887,464	-38.2%
2024	31,207,005	-15,570,371	-33.3%

Figure 1: New York State Emissions by Fuel Type



NYSERDA RGGI Funding Emission Savings

The estimated emission savings from NYSERDA investments are described in the Semi-Annual Status Report through December 2024. The description states that:

> This report is prepared pursuant to the State's RGGI Investment Plan (2024 Operating Plan) and provides an update on the progress of programs through the quarter ending December 31, 2024. It contains an accounting of program spending; an estimate of program benefits; and a summary description of program activities, implementation, and evaluation. An amendment providing updated program descriptions and funding levels for the 2024 version of the Operating Plan was approved by NYSERDA's Board in January 2025.

Table 3 is a copy of Table 1 in the latest full-year Semi-Annual Status Report. It summarizes the effectiveness of the NYSERDA investments and lists expected cumulative portfolio benefits including emissions savings. This report notes that NYSERDA "begins tracking program benefits once project installation is complete and provides estimated benefits for projects under contract that are not yet operational (pipeline benefits)." There is an important distinction between the cumulative annual committed savings and the expected lifetime total benefits. For the purposes of this analysis, I did not use "lifetime" savings data because I am trying to compare the RGGI program benefits emission savings reductions to the RGGI compliance metric of an annual emission cap. Lifetime reductions are clearly irrelevant to that metric. Note that the Climate Act emission reduction metrics are annual emissions relative to a 1990 baseline so expected lifetime benefits are irrelevant.

Table 3. Summary of Expected Cumulative Portfolio Benefits through December 31, 2024

Benefits through December 31, 2024[a]	Net Greenhouse Gas Emission Savings[b] (Tons CO_2e[c])	Total Net Fuel Savings (MMBtu)	Net Efficiency Electricity Savings (MWh)	Net Renewable Energy Generation (MWh)	Total Net Electricity Savings/Generation (MWh)	Energy Bill Savings to Participating Customers ($ Million)
Cumulative Annual Installed Savings[d]	2,094,817	16,419,238	1,121,942	644,851	1,766,792	$779.6
Cumulative Annual Pipeline Savings[e]	126,940	1,586,843	36,685	47,219	83,903	$20.4
Cumulative Annual Committed Savings[f]	2,221,757	18,006,081	1,158,626	692,070	1,850,696	$800.0
Expected Lifetime Total Savings[g]	38,004,105	259,648,763	24,706,920	14,531,862	39,238,782	$12,183.9

[a] Cross-program overlap for projects that received any combination of a Green Jobs - Green New York (GJGNY) assessment, a GJGNY loan, or a RGGI-funded incentive through the Home Performance with ENERGY STAR® Program, NY-Sun Program or Renewable Heat NY Program has been removed.

[b] These emission reductions are associated with both electric and fossil-fuel saving measures. Under a cap-and-trade system, the total number of emission allowances is determined by regulation. Regulated entities can purchase allowances and collectively emit up to the cap that is currently in place. Therefore, in the near term, electric efficiency projects may not decrease the overall amount of emissions going into the atmosphere. However, electric efficiency projects will reduce end users' responsibility or footprint associated with emissions from electricity production.

[c] CO_2e stands for carbon dioxide equivalent and describes the amount of CO_2 that would have the same global warming potential as a given mixture of gases based on factors published by the Intergovernmental Panel on Climate Change.

[d] Inclusive of savings from all currently operational projects installed since program inception.

[e] Inclusive of savings from all projects under a signed contract and projects with an application received that are not yet operational.

[f] The sum of savings from Installed Savings and Pipeline Savings.

[g] The expected benefits over the lifetime of all operational projects, projects under a signed contract, and projects with an application received that are not yet operational. See Table A-4 in appendix A for the measure-life assumptions.

Comparison of NYSERDA Cumulative Emissions Savings to Observed Emission Reductions

Table 4 presents the relevant data to compare the observed reductions and NYSERDA RGGI investment emission savings. I list the last five years of data starting in 2019 when the emissions went up because of the closure of Indian Point. Reductions from the 2006-2008 average baseline are listed. The emissions savings listed are cumulative annual emissions. If the RGGI proceeds were invested, then the total emissions would be higher by the amount of the savings. **The total cumulative annual emission savings through the end of 2024 is only 2,221,757 tons and that represents a reduction of 4.7% from the pre-RGGI baseline.** Emission reductions by fuel type clearly show that fuel switching is the primary cause of reductions.

Table 4: NY Electric Generating Unit Emissions, NYSERDA GHG Emission Savings from RGGI Investments, and Emissions by Fuel Type

		Cumulative RGGI Net		CO2 Emissions By Fuel Type			
	Total New York CO2 Emissions (tons)	Annual	Total Emissions Without RGGI	Coal	Oil	Natural Gas	Other
Baseline	46,777,377		46,777,377	20,915,932	9,911,913	15,801,374	148,157
2019	24,903,924	977,422	25,881,346	471,969	868,516	23,019,716	543,723
2020	26,920,636	1,246,651	28,167,287	174,360	476,741	25,675,000	594,535
2021	28,558,685	1,446,937	30,005,622	0	325,270	27,619,633	613,781
2022	30,818,867	1,731,823	32,550,690	0	604,475	29,707,409	506,983
2023	28,889,913	1,976,101	30,866,014	0	316,176	28,429,838	143,899
2024	31,207,005	2,221,757	33,428,762	0	158,183	31,048,822	0
Delta	-15,570,371	2,221,757	-13,348,614	-20,915,932	-9,753,730	15,247,448	-148,157
% Reductions	-33.3%	-4.7%		-44.7%	-20.5%	27.0%	0.0%

State agencies have never acknowledged the findings that show RGGI has had very little to do with the observed emission reductions. For example, at the NYSERDA RGGI Stakeholder meeting on 5 December 2024, Jon Binder from the New York Department of Environmental Conservation said:

> Together, we have cut New York's power sector emissions of carbon dioxide by more than 50 %. And we've done this by establishing regulations that set limits on pollution while also making investments through this operating plan process in parallel with so many other critical policies at the state level and commitments to implement the Climate Leadership and Community Protection Act.

These results have also been ignored in the 2026 Operating Plan Amendment.

New York RGGI Program Investment Reductions

Another finding that has been ignored is the poor emission reduction cost effectiveness of NYSERDA investments. Table 5 lists data from Semi-Annual Status Report through December 2024 Table 2: Summary of Total Expected Cumulative Annual Program Benefits including the cumulative annual costs of investment programs and annual tons of carbon dioxide equivalent (CO2e) saved by the investments.. The report notes that: "NYSERDA begins tracking program benefits once project installation is complete and provides estimated benefits for projects under contract that are not yet operational (pipeline benefits)." The report presents "expected quantifiable benefits related to carbon dioxide equivalent (CO2e) reductions, energy savings, and participant energy bill savings with expended and encumbered funds" but I only considered the CO2e reductions in these comments. Note that the emission savings evaluated in the report include carbon dioxide, methane, and nitrous oxide. In the original table "lifetime" savings are included. I did not use "lifetime" savings data because I am trying to compare the RGGI program benefits emission savings reductions to the RGGI compliance metric of an annual emission cap. Lifetime reductions are clearly irrelevant. The observed cost per ton of emissions savings is $583.

Table 5: RGGI Funding Status Report Table 2: Summary of Total Expected Cumulative Annual Program Benefits

Through Date	Cumulative Costs ($ millions)			Savings (Cumulative Annual Tons CO2e)			Cost Benefit Ratio ($/Ton CO2e)
	Total Incentives	Associated Costs	Combined Costs	Installed Savings	Pipeline Savings	Total Savings	$ per ton CO2 savings
12/31/2024	$1,124.6	$170.0	$1,294.6	2,094,817	126,940	2,221,757	$583

NYSERDA RGGI proceed investments can produce CO2 emission savings from RGGI-affected electric generating units in two ways: directly by displacing natural gas generation by deploying zero-emissions resources or indirectly by reducing the amount of load that the affected units must provide. I assumed that the indirect investments reduced load that directly offset RGGI-affected sources. This has been a good assumption because load growth has been stalled but with electrification of buildings and transportation and the addition of data centers and large load centers, the presumption that indirect NYSERDA investments will reduce emissions will become weak.

Table 5 is misleading in the context of RGGI compliance obligations because not all the savings will affect RGGI emission sources. For example, the Clean Transportation Program allocates %164 million to support electric vehicle implementation. Those investments decrease vehicular emissions but increase RGGI unit emissions. . There is a significant fraction of RGGI funds that goes to programs that increase rather than decrease electric generating unit emissions.

In Table 6, I categorized programs relative to RGGI compliance obligations based on the Semi-Annual Status Report through December 2024. The table breaks down the program allocations and expected annualized CO2 savings for three categories: direct reductions to RGGI sources, indirect reductions, and those programs that will actually increase electric generating emissions. For example, Charge NY is NYSERDA's Clean Transportation Program that "has been pursuing five strategies to promote EV adoption by consumers and fleets across New York". The results in the Funding Status reports show that since the start of the program NYSERDA has allocated $101.6 million to programs that directly reduce utility emissions achieving emission savings of 202,422 tons, $842.6 million for programs that indirectly reduce utility emissions savings by 1,150,773 tons, and $343.5 million for programs that will increase utility emissions by 867,449 tons. When those savings that do not affect RGGI source emissions are removed, total savings are 1,827,575 tons instead of 2,221,757.

Table 6: Summary of Expected Cumulative Annualized Program Benefits through 31 December 2024 for Programs that Directly, Indirectly, or Do Not Affect RGGI CO2 Emissions

	Programs that Directly Displace CO2 Emissions		Programs that Indirectly Displace CO2 Emissions		Programs that Do Not Directly Affect RGGI Emissions	
Program	Costs (millions of dollars) Total Costs	Net Greenhouse Gas Emission Savings (Annualized Tons CO2e) Total Committed Savings	Costs (millions of dollars)	Net Greenhouse Gas Emission Savings (Annualized Tons CO2e)	Costs (millions of dollars) Total Costs	Net Greenhouse Gas Emission Savings (Annualized Tons CO2e) Total Committed Savings
Renewable Energy						
NY-Sun Statewide Customer Incentives	$34.0	29,448				
NY-Sun Long Island SEEF Incentives	$8.2	8,836				
NY-Sun Long Island Incentives	$54.1	113,342				
Renewable Heat New York			$10.1	2,477		
NYSERDA PV Incentives	$5.3	50,796				
Energy Efficiency						
LIPA Energy Efficiency and Renewable Energy Initiative			$309.6	687,137		
EmPower Plus			$90.5	44,726		
Disadvantaged Communities Schools / Builds			$76.5	5,723		
Community Thermal Energy Networks			$4.2	3,036		
Building Retrofit and New Construction Challenges					$15.9	189
Multifamily Performance Program			$14.8	41,430		
Multifamily Carbon Emissions Reduction Program'			$5.9	45,151		
Multifamily LCCP ! Pathways						
Solar Hot Water (Thermal) Program					$4.2	959
Green Residential Building Program			$2.8	2,798		
Innovative GHG Abatement Strategies						
Electric Vehicle/Charge NY now Clean Transportation					$148.2	359,016
Community Clean Energy						
Regional Economic Development & GHG Reduction					$10.2	34,018
Clean Energy Communities			$3.8	203,195		
Energy to Lead			$0.0	1,523		
Renewable/Net-Zero Energy Demonstrations			$0.0	3,352		
Directed						
Clean Energy Fund"			$165.4	269,508		
Green Jobs - Green New York0			$324.0	421,818		
Cross-Program Overlap"			$0.0	-107,834		
Totals	$101.6	202,422	$1,007.6	1,624,040	$178.5	394,182

RGGI Compliance and Draft Operating Plan Amendments

NYSERDA's programmatic investments includes four themes but only one addresses emission reductions. The others are vague cover language to justify the use of RGGI auction proceeds to bury administrative expenses, force ratepayers to cover costs related to Climate Act implementation and provide funding for politically favored projects at the expense of programs that affect CO_2 emissions from RGGI affected sources. This section determines how much funding is allocated to reducing emissions in the 2026 Draft Amendment.

Table 7 is Table 1 from the 2026 Draft RGGI Operating Plan Amendment. It has been edited to remove programs that are not funded by the amendments. The original table presents the cumulative revenues through FY24-25, the funding allocated for FY25-26 that represents the two actual auctions and revised auction prices, the funding allocations during this planning period, and overall sum totals. All ongoing programs have been grouped under their relevant themes.

The Draft Amendment document "provides brief descriptions of the proposed programs in most instances, but not all the programs have descriptions." To the best of my ability I categorized the programs based on those descriptions.

Table 7: Draft RGGI Operating Plan Amendment Table 1: Cumulative Revenues and Program Funding Allocations – Only Programs with Future Funding Listed

		Cumulative FY 24-25	FY 2526	FY 2627	FY 2728	FY 2829	Total (All time)
	Number of allowances	502,102,943	21,905,997	25,356,513	19,292,165	16,802,856	585,460,474
	Allowance price	$5.56	$20.39	$20.29	$20.42	$20.42	$7.67
	RGGI Auction Proceeds	$2,792,546,762	$446,707,363	$514,387,466	$393,946,009	$343,114,320	$4,490,701,920
	Interest Earnings	$75,123,195	$32,284,000	$34,500,000	$36,227,000	$26,000,000	$204,134,195
	Total Revenues	$2,867,669,957	$478,991,363	$548,887,466	$430,173,009	$369,114,320	$4,694,836,114
Affordability	Affordable Multifamily Buildings	17,000,000	5,000,000	5,000,000	-	-	27,000,000
	Buildings Technical Assistance	10,075,000	14,550,000	16,500,000	15,000,000	5,000,000	61,125,000
	Comfort Home	6,500,000	-	-	-	-	6,500,000
	Competitive GHG Reduction Pilot	972,650	-	-	-	-	972,650
	Consumer Education, Uptake, and Experience	12,500,000	4,500,000	9,500,000	9,500,000	4,500,000	40,500,000
	EmPower+	131,475,905	110,250,000	120,642,466	60,250,000	60,000,000	482,618,371
	Energy to Lead	3,000,000	-	-	-	-	3,000,000
	Green Jobs-Green NY (Fund)	343,174,502	49,500,000	54,500,000	35,000,000	35,000,000	517,174,502
	Green Residential Buildings	2,744,601	-	-	-	-	2,744,601
	LIPA Efficiency and RE	309,600,000	20,000,000	20,000,000	20,000,000	20,000,000	389,600,000
	LMI - Appliance Upgrade Program	-	10,000,000	-	-	-	10,000,000
	Multifamily Carbon Emissions Reduction	5,833,019	-	-	-	-	5,833,019
	Multifamily Performance Program	15,046,683	-	-	-	-	15,046,683
	Municipal Water/Wastewater	1,245,242	-	-	-	-	1,245,242
	New Construction & Thermal Energy Networks Challenges Prog	56,250,000	19,000,000	57,163,333	56,500,000	50,000,000	238,913,333
	Renewable Heat NY	10,300,084	-	-	-	-	10,300,084
	Retrofit Challenges	97,825,000	134,450,000	72,333,333	85,000,000	75,000,000	464,608,333
	Support for 2 Million Homes Goal	-	1,000,000	-	-	-	1,000,000
Energy abundance, diversity, and reliability	Advanced Fuels Innovation	5,000,000	8,250,000	8,250,000	8,000,000	8,000,000	37,500,000
	Agrivoltaics Research Program	10,000,000	7,000,000	10,000,000	-	-	27,000,000
	Energy Storage	12,926,434	-	-	-	-	12,926,434
	Grid Modernization Innovation	4,791,000	4,580,000	2,800,000	1,800,000	-	13,971,000
	Large-Scale Generation	-		36,000,000	32,000,000	32,000,000	100,000,000
	Negative Emissions Technologies	8,000,000	2,000,000	-	-	-	10,000,000
	NY-Sun	117,789,821	5,000,000	8,000,000	8,000,000	8,000,000	146,789,821
	Power Generation and Storage Innovation	2,837,698	-	-	-	-	2,837,698
	PV Manufacturing Consortium	8,480,000	-	-	-	-	8,480,000
	Settlements and Reporting	789,933	-	-	-	-	789,933
	Solar Thermal incentive	4,226,947	-	-	-	-	4,226,947
	Transfer to Clean Energy Standard	719,424	-	-	-	-	719,424
Energy innovation and economic development	Advanced Buildings & Industrial Innovations	13,307,653	-	-	-	-	13,307,653
	Clean Energy Business Development	5,809,987	-	-	-	-	5,809,987
	Clean Energy Economy and Innovation Ecosystem Support	5,400,000	4,100,000	24,000,000	4,000,000	2,000,000	39,500,000
	Clean Transportation	212,800,000	74,000,000	57,000,000	57,000,000	50,000,000	450,800,000
	Economic Development Growth Extension	5,843,046	-	-	-	-	5,843,046
	Energy Markets Intelligence and Statewide Planning and Implet	14,200,000	9,500,000	13,000,000	13,000,000	13,000,000	62,700,000
	Grant Program Match Opportunities	700,000	-	-	-	-	700,000
	Brookhaven National Lab- ION Collidor	25,000,000	-	-	-	-	25,000,000
	Regional Economic Development & GHG Reduction	10,246,443	-	-	-	-	10,246,443
	Southern Tier Competition (76 West)	11,000,000	-	-	-	-	11,000,000
	Transportation Research	3,819,311	-	-	-	-	3,819,311
Thriving communities and environments	Clean Energy Communities	109,476,103	4,000,000	11,000,000	10,000,000	10,000,000	144,476,103
	Clean Energy Siting Technical Assistance for Local Governmen	1,000,000	-	4,000,000	4,000,000	2,000,000	11,000,000
	Clean Energy Workforce Development	39,000,000	-	20,000,000	20,000,000	20,000,000	99,000,000
	Clean Energy Workforce Opportunity Program	15,000,000	-	-	-	-	15,000,000
	Community Energy Engagement	1,400,001	-	-	-	-	1,400,001
	DAC and Community Engagement	16,700,000	6,500,000	10,000,000	8,000,000	8,000,000	49,200,000
	Environmental, Energy Social Science, and Climate Resiliency	22,829,296	6,000,000	6,600,000	10,000,000	10,000,000	55,429,296
	Supplier Education and Qualification	-	-	-	1,000,000	1,000,000	2,000,000
Directed	Air Monitoring	8,000,000	-	-	-	-	8,000,000
	Climate Smart Communities	7,674,999	-	-	-	-	7,674,999
	Electric Generation Facility Cessation Mitigation	51,842,000	8,000,000	14,158,000	-	-	74,000,000
	NYS Budget Transfer	90,000,000	-	-	-	-	90,000,000
	NYS Environmental Protection Fund	25,000,000	5,000,000	10,000,000	10,000,000	10,000,000	60,000,000
	NYS Environmental Tax Credits	179,000,000	-	-	-	-	179,000,000
	Transfer to(from) Clean Energy Fund	230,226,804	19,773,196	-	-	-	250,000,000
Administration & Non-Program Costs	Commensurate Benefit/Litigation reserve	21,900,366					21,900,366
	Progran Administration	102,002,729	41,742,867	41,742,867	41,742,867	41,742,867	268,974,195
	Program Evaluation	14,155,429	2,000,000	3,000,000	3,000,000	3,000,000	25,155,429
	RGGI Inc pro-rata costs	12,483,667	825,000	825,000	825,000	825,000	15,783,667
	RGGI Inc Startup Costs	1,598,204					1,598,204
	State Cost Recovery	24,822,678	4,789,914	5,488,875	4,301,730	3,691,143	43,094,340
	Total Funding Allocations	2,481,342,659	581,310,976	641,503,873	517,919,597	472,759,010	4,694,836,115
	Unprogrammed/(Overcommitment)	386,327,298	-102,319,613	-92,616,408	-87,746,587	-103,644,690	0
	Cumulative Unprogrammed(Overcommitment)	386,327,298	284,007,685	191,391,277	103,644,690	0	0

Table 8 combines information from Table 2. Summary of Expected Cumulative Annual Program Benefits through December 31, 2024, from the Semiannual Status Report through December 31, 2024, and Table 1: Cumulative Revenues and Program Funding Allocations from the Draft RGGI Operating Plan Amendment. For each Operating Plan theme, it lists the costs and emission savings totals as well as the cumulative and projected funding allocations. The Benefits Summary provides an update on the progress of RGGI programs, and "It contains an accounting of program spending; an estimate of program benefits; and a summary description of program activities, implementation, and evaluation." Table 8 shows that it is incomplete. The Benefits Summary Affordability accumulated costs total $854.3 million but the cumulative funds allocated are $1,023 million so the benefits analysis covers 83% of the allocations. The Benefits Summary "Energy abundance, diversity, and reliability" accumulated costs total $105.8 million but the cumulative funds allocated are $175.6 million so the benefits analysis covers 60% of the allocations. The Benefits Summary "Energy innovation and economic development" accumulated costs total $306.6 million and the cumulative funds allocated are $1308.1 million so the benefits analysis covers all the allocations for this theme. The Benefits Summary "Thriving communities and environments" accumulated costs total $3.8 million but the cumulative funds allocated are $205.4 million so the benefits analysis cover only 2% of the allocations. The Benefits Summary "Directed" theme accumulated costs total $165.4 million but the cumulative funds allocated are $591.7 million so the benefits analysis cover 28% of the allocations. There no benefits for "Administration & Non-Program Costs" that total $177.0 million. Overall, the Benefits Summary accounts for $1.436 billion and the cumulative funds allocated total $2.481 billion. The benefits analysis estimate only accounts for 58% of the funds allocated.

Table 8: Combination of Semiannual Status Report through December 31, 2024 - Table 2. Summary of Expected Cumulative Annual Program Benefits thru 12/31/24 and Amendment - Table 1: Cumulative Revenues

	Semiannual Status Report through December 31, 2024 - Table 2. Summary of Expected Cumulative Annual Program Benefits thru 12/31/24							Amendment - Table 1: Cumulative Revenues & Program Allocations					
	Programs that Directly Displace CO2 Emissions		Programs that Indirectly Displace CO2 Emissions		Programs that Do Not Directly Affect RGGI Emissions		Table 2 Total	Cumulative Revenues and Program Funding Allocations					
Theme	Costs	Net GHG Emission Savings (Annualized Tons CO2e)	Costs	Net GHG Emission Savings (Annualized Tons CO2e)	Costs	Net GHG Emission Savings (Annualized Tons CO2e)	Total Costs	Cumulative FY 24-25	FY 2526	FY 2627	FY 2728	FY 2829	Total (All time)
Affordability	$0	0	$838,400,000	1,254,296	$15,900,000	189	$854,300,000	$1,023,542,686	$368,250,000	$355,639,132	$281,250,000	$249,500,000	$2,278,181,818
					Percentage Status of Cumulative Allocations		83%						
Energy abundance, diversity, and reliability	$101,600,000	202,422	$4,200,000	959	$0	0	$105,800,000	$175,561,257	$26,830,000	$65,050,000	$49,800,000	$48,000,000	$365,241,257
					Percentage Status of Cumulative Allocations		60%						
Energy innovation and economic development	$0	0	$0	0	$306,600,000	752,050	$306,600,000	$308,126,440	$87,600,000	$94,000,000	$74,000,000	$65,000,000	$628,726,440
					Percentage Status of Cumulative Allocations		100%						
Thriving communities and environments	$0	0	$0	3,352	$3,800,000	204,718	$3,800,000	$205,405,400	$16,500,000	$51,600,000	$53,000,000	$51,000,000	$377,505,400
					Percentage Status of Cumulative Allocations		2%						
Directed	$0	0	$0	0	$165,400,000	269,508	$165,400,000	$591,743,803	$32,773,196	$24,158,000	$10,000,000	$10,000,000	$668,674,999
					Percentage Status of Cumulative Allocations		28%						
Administration & Non-Program Costs	$0	0	$0	0	$0	0	$0	$176,963,073	$49,357,781	$51,056,742	$49,869,597	$49,259,010	$376,506,201
					Percentage Status of Cumulative Allocations		0%						
Totals	$101,600,000	202,422	$842,600,000	1,258,607	$491,700,000	1,226,465	$1,435,900,000	$2,481,342,659	$581,310,977	$641,503,874	$517,919,597	$472,759,010	$4,694,836,115
					Percentage Status of Cumulative Allocations		58%						

Table 9 presents the results of my interpretation of the potential for RGGI EGU emission reductions for the programs in the proposed amendment for the 2026 Draft Amendment. I reviewed each proposed program and classified each program relative to six categories of potential RGGI source emission reductions. The first three categories covered programs that directly, indirectly or could potentially decrease RGGI-affected source emissions. I also included a category for programs that will add load that could potentially increase RGGI source emissions such as programs to incentivize electrification. The two other categories considered programs that do not affect emissions and administrative costs respectively.

The first three categories cover programs that account for 53% of investments which is up sharply from the 2025 Amendment which only allotted 31% of the investments. This positive development occurred because Empower+ funding doubled and the Retrofit Challenges Programs funding increased sharply. Programs that will add load that could potentially increase RGGI source emissions and whose emissions savings are unrelated to the electric sector total 20% of the investments. Programs that do not affect emissions are funded with 18% of the proceeds and administrative costs total another 9%. The preference for funding that could reduce RGGI emissions is a good development.

Table 9: Potential for RGGI Reductions for Funding Allocations for 2025 Operating Plan Amendments

		Total for Amendment					
	Total 25-29	Direct RGGI Reductions	Indirect RGGI Reductions	Potential RGGI Reductions	Increase Generation	No Emission Reductions	Administration Costs
Affordable Multifamily Buildings	$10,000,000		$10,000,000				
Buildings Technical Assistance	$61,125,000		$61,125,000				
Consumer Education, Uptake, and Experience	$28,000,000					$28,000,000	
EmPower+	$351,142,466		$175,571,233		$175,571,233		
Green Jobs-Green NY (Fund)	$174,000,000		$174,000,000				
LIPA Efficiency and RE	$80,000,000		$80,000,000				
LMI - Appliance Upgrade Program	$10,000,000		$10,000,000				
New Construction &Thermal Energy Networks Challenges	$182,663,333			$182,663,333			
Renewable Heat NY	$0						
Retrofit Challenges	$366,783,333		$330,105,000		$36,678,333		
Support for 2 Million Homes Goal	$51,050,000		$51,050,000				
Advanced Fuels Innovation	$32,500,000					$32,500,000	
Agrivoltaics Research Program	$17,000,000					$17,000,000	
Grid Modernization Innovation	$9,180,000		$9,180,000				
Large-Scale Generation	$100,000,000	$100,000,000					
Negative Emissions Technologies	$2,000,000					$2,000,000	
NY-Sun	$29,000,000	$29,000,000					
Clean Energy Economy and Innovation Ecosystem Support	$34,100,000					$34,100,000	
Clean Transportation	$238,000,000				$238,000,000		
Energy Markets Intelligence /Statewide Planning &Implementation	$48,500,000					$48,500,000	
Clean Energy Communities	$35,000,000					$35,000,000	
Clean Energy Siting Technical Assistance f	$10,000,000					$10,000,000	
Clean Energy Workforce Development	$60,000,000					$60,000,000	
DAC and Community Engagement	$32,500,000					$32,500,000	
Environ., ESS, and Resiliency Research and Implementation	$32,600,000					$32,600,000	
Supplier Education and Qualification	$2,000,000					$2,000,000	
Electric Generation Facility Cessation Mitigation	$22,158,000					$22,158,000	
NYS Environmental Protection Fund	$35,000,000					$35,000,000	
Transfer to(from) Clean Energy Fund	$19,773,196					$19,773,196	
Progran Administration	$166,971,468						$166,971,468
Program Evaluation	$11,000,000						$11,000,000
RGGI Inc pro-rata costs	$3,300,000						$3,300,000
State Cost Recovery	$18,271,662						$18,271,662
Total Funding Allocations	$2,273,618,458	$129,000,000	$901,031,233	$182,663,333	$450,249,566	$411,131,196	$199,543,130
Percentage of Total		5.7%	39.6%	8.0%	19.8%	18.1%	8.8%

RGGI Compliance Summary

The funding allocation increase in programs that directly, indirectly, or could potentially decrease RGGI-affected source emissions consistent with core state priorities is encouraging. Figure 1 shows that no further fuel switching emission reductions are available. Affected sources have no remaining options to comply with RGGI mandates other than limiting operations. Future emission reductions are only possible if zero-emission resources displace the generation of RGGI-affected sources.

However, there is a complicating factor that makes emphasis on reducing RGGI-affected emissions more important. The New York State Department of Environmental Conservation (DEC) recently announced revisions to 6 NYCRR Part 242 – CO2 Budget Trading Program the regulation that sets the New York RGGI allowance cap. Comparison of the revised cap starting in 2027 with the New York State Energy Plan shows that in 2029 projected emissions are double the RGGI cap. Table 10 lists projections starting in 2027 that range from 49.3 to 40.3 MMT. The 2023 observed emissions from RGGI sources was 28.7 MMT. Table 10 lists the proposed RGGI cap or limit on tons of CO2 permitted. There is a big difference between the Pathways Analysis projection and the RGGI cap. There are some mitigating factors because of the Climate Act accounting methodology, but I believe this is still problematic.

Table 10: Comparison of RGGI Proposed Part 242 Cap and State Energy Plan Pathways Analysis Electric Power Scenario Projections

	Proposed RGGI Part 242 Cap		Pathways Analysis Million metric tons using CLCPA accounting				
Year	Million tons	Million Metic tonnes	No Action -- Electric Power	Current Policies - Electric Power	Additional Action -- Electric Power	Net Zero A -- Electric Power	Net Zero B -- Electric Power
2027	21.9	19.9	49.3	40.6	40.5	40.3	40.3
2028	19.1	17.3	49.5	36.4	36.3	35.9	35.9
2029	16.4	14.9	49.8	32.2	32.1	31.5	31.5
2030	13.7	12.4	50.1	28.0	27.8	27.1	27.1
2031	10.9	9.9	51.1	27.8	28.0	30.8	30.7
2032	8.2	7.4	52.1	27.6	28.1	34.6	34.3
2033	5.5	5.0	53.2	27.4	28.2	38.3	37.9
2034	4.7	4.3	54.2	27.2	28.4	42.0	41.5
2035	3.9	3.5	55.2	27.0	28.5	45.8	45.2
2036	3.1	2.8	54.4	22.0	23.2	37.0	36.5
2037	2.3	2.1	53.6	17.0	17.9	28.3	27.9

Revenue Allocation Tradeoffs

Danny Cullenward and David Victor's book Making Climate Policy Work describe one aspect of this problem that has not been acknowledged by NYSERDA. The authors note that the level of expenditures needed to implement the net-zero transition vastly exceeds the "funds that can be readily appropriated from market mechanisms". That observation and the conclusion that New York is going to have to increase funding for alternative technologies means that electric system emission reduction investments should be a priority for RGGI revenues.

This is my sixth set of comments on the annual operating plan amendment. Until last year I was able to say that there has been a comfortable margin between emissions and allowance allocations such that costs have stayed below the RGGI Cost Containment Reserve (CCR) targets. That changed in 2024. In the last auction in 2023 the allowance clearing price was $14.88. In the March 2024 auction the price went up to $16.00, triggering the release of the CCR allowances. In my last comments I predicted that all CCR allowances in the first auction of 2025 and that is what happened. Clearly the margin between available allowances and emissions is getting smaller. This increases the importance of adequately funding programs that reduce emissions and the need to prioritize those programs that have been proven most effective.

In that context, the difference between the Pathways Analysis projected emissions and the proposed revisions to the RGGI allowance cap is troubling. Because RGGI sources emissions represent energy production, the allowance cap rations electricity. The sources that are responsible for compliance with RGGI have no remaining options for on-site control so must rely on others to make the investments for zero-carbon emitting resources to displace their operations to achieve emission reductions. As it stands now, future emissions will exceed the allowance cap forcing RGGI affected sources to shut down to comply with the regulation thereby creating an artificial energy shortage.

Program Priorities

It is clear that new technology is needed to achieve the goals so it is unclear whether the sector can reach zero emissions reliably and affordably. As part of the proceeding to implement a large-scale renewable program and the Clean Energy Standard (Proceeding 15-E-0302), the Public Service Commission held a technical conference on December 11 and 12, 2023 entitled "Zero Emissions by 2040" that included a session titled "Gap Characterization." The Gap Characterization session described the gap between the capabilities of existing renewable energy technologies and future system reliability needs. Speakers acknowledged that generation from wind and solar alone could not fill the gap and recognized the need for a new resource to be developed to provide electricity to meet demand when wind and solar production are low. They referred to this new, not-yet-existing, hypothetical technology as the Dispatchable Emissions-Free Resource, or "DEFR." The unacknowledged problem is that DEFR may be required sooner to facilitate RGGI compliance requirements.

At the Operating Plan Amendment Advisory Stakeholder meeting on December 18, 2025, this question was posed: "Given the State Energy Plan focus on the need to identify practical, dispatchable emissions free generation resources, are there funds in this Operating Plan focused on research related to this important long term need? Karl Maas responded:

> So, I guess I would point specifically to some of the previous speakers that I mentioned earlier. So, we do have some specific research activities into offshore wind and nuclear activities. We also are looking at clean fuels research. So again, we do have some specific areas where we're identifying how we can support those dispatchable clean firm resources in the future.

This is unresponsive to the need identified. Offshore wind is the reason DEFR is needed. Nuclear could be a solution but not in the time frame necessary to support RGGI compliance requirements. I am frustrated by this answer because it reflects NYSERDA's lack of urgency to address DEFR. In my opinion, the most promising DEFR backup technology is nuclear generation because it is the only candidate resource that is technologically ready, can be expanded as needed and does not suffer from limitations of the Second Law of Thermodynamics. If the only viable DEFR solution is nuclear, then renewables cannot be implemented without it. But nuclear can replace renewables, eliminating the need for a massive DEFR backup resource. That would also make the current NYSERDA renewable energy deployment programs a false solution. DEFR funding should be a priority for RGGI funding.

DEFR Gap Feasibility Study

There is another aspect of DEFR that has not received adequate attention. The DEFR feasibility challenge is the identified "gap" when wind and solar resources are low for long periods. The characteristics of these resource gaps must be quantified not only for New York but also for adjoining regional systems presuming that they also transition to an electric system with a similar reliance on wind and solar.

The Independent System Operator of New England (ISO-NE) Operational Impact of Extreme Weather Events completed an analysis that addresses this need for New England. The study evaluated 1-, 5-, and 21-day extreme cold and hot events using a database covering 1950 to 2021. The results illustrate why this information is necessary. Not surprisingly the system risk or "the aggregated unavailable supply plus the exceptional demand" during an event increased as the lookback period increased. If the resource adequacy planning for New England only looked at the last ten years, then the system risk would be 8,714 MW, but over the whole period of record, the worst system risk was 9,160 MW which represents a resource increase of 5.1%.

As part of the New York Independent System Operator (NYISO) 2023-2042 System & Resource Outlook, DNV modeled "long-term hourly simulated weather and generation profiles for representative offshore wind (OSW), land-based wind (LBW), and utility- scale solar (UPV)

generators". The analysis covered the period 2000 to 2021 and was limited to the New York Control Area. At the September 27, 2024 New York State Reliability Council (NYSRC) Extreme Weather Working Group (EWWG) meeting, Thomas Primrose from PSEG Long Island presented his analysis of data from the DNV work. Among other things, his evaluation found that all New York solar, onshore wind, and offshore wind capacity averaged less than 10% for 73 hours starting November 23, 2016 at 1600. I found that if the renewable resources projected in the Integration Analysis, without any fossil-fired resources, were operating at that time that there would have been a cumulative generation deficit of up to 103,465 MWh within the lull. Note that the lull deficiency projection length is dependent upon the location of the solar and wind facilities, so this is an approximation.

It is imperative that the RGGI Operating Plan supports characterization of these gaps for New York planning. The frequency, duration, and intensity of wind and solar availability gaps must be known to properly plan to provide the generation, storage, and DEFR resources necessary to maintain reliable service using weather-dependent intermittent resources. The RGGI Operating Plan Amendments should extend the NYISO analysis to adjoining control areas and over a longer analysis period.

Conclusion and Recommendations

My primary concern is that RGGI is an electric sector emissions reduction program but that reality is not reflected in investment priorities. I have shown that the observed electric sector emission trends indicate that the observed reductions occurred because of fuel switching from coal and oil to natural gas and that there are no more fuel switching opportunities. Therefore, programs that materially decrease electric sector emissions directly or indirectly through energy use reductions should be a priority because affected sources have no other options. There are programs in the amendment that do not meet these criteria. It is only appropriate to fund the non-priority programs if sufficient funding has been allocated to make the emission reductions necessary to meet RGGI compliance mandates. The experience gained with past investments should also be considered when allocating revenues. The observed emission reduction effectiveness for existing programs should be used to prioritize electric sector programs. Finally, the stakeholder process should document responses to all comments received.

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