Introduction

I am submitting these comments on the New York's Regional Greenhouse Gas Initiative (RGGI) Operating Plan Amendment ("Amendment") for 2021 document released on October 29, 2020 because I think current state policy is relying too much on the RGGI proceeds for Climate Leadership and Community Protection Act (CLCPA) greenhouse gas emissions reduction goals at the expense of the electric generating unit RGGI emission goals. RGGI is an electric sector emissions reduction program and it is inappropriate to use those funds for any program that will increase emissions in that sector.

I have been involved in the RGGI program process since it was first proposed prior to 2008. I follow and write about the details of the RGGI program because its implementation affects whether I will be able to continue to live in New York. I have extensive experience with air pollution control theory, implementation, and evaluation of results having worked 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 company I have been associated with, these comments are mine alone.

Background

The draft Amendment explains that New York State invests RGGI proceeds to support comprehensive strategies that best achieve the RGGI greenhouse gas emissions reduction goals pursuant to 21 NYCRR Part 507. The programs in the portfolio of initiatives are designed to support the pursuit of the State's greenhouse gas emissions reduction goals by:

- Deploying commercially available energy efficiency and renewable energy technologies;
- Building the State's capacity for long-term carbon reduction;
- Empowering New York communities to reduce carbon pollution, and transition to cleaner energy;
- Stimulating entrepreneurship and growth of clean energy and carbon abatement companies in New York; and
- Creating innovative financing to increase adoption of clean energy and carbon abatement in the State.

Environmental Justice

The Operating Plan amendment for 2021 notes that:

> RGGI programs have and will continue, alongside other state programs, to contribute to economy-wide greenhouse gas emissions reductions and provide benefits to New York's historically overburdened and underserved communities. NYSERDA's CO2 Allowance Auction Program regulations reflect the provision of the Climate Leadership and Community Protection Act "that 40%, and no less than 35%, of the overall benefits from the investment of the [CO2 Allowance Auctions] proceeds" will be realized in disadvantaged communities.

It is entirely appropriate that there should be an emphasis on environmental justice but I have concerns about the State's approach.

The CLCPA and the draft Amendment emphasize support to disadvantaged communities. Given that all other jurisdictions that have attempted to reduce GHG emissions have increased the cost of energy, it is likely that will be the case in New York too. Therefore, I think there are two priorities to reduce the regressive impact on those who can least afford those increased costs. Overall, the funding emphasis should be on the most cost-effective GHG reduction programs to lower overall costs. The exception to that emphasis are programs that directly reduce costs for anyone, regardless of location, who is living in energy poverty or has a disproportionate energy burden. I worry that the emphasis on disadvantaged communities will hurt energy paupers living outside of those communities, particularly those in rural areas.

Proposed Programs

In the rest of my comments, I will address the programs proposed for the draft Amendment. This section that looks at each of the proposed programs relative to their ability to reduce CO2 emissions from RGGI-affected sources. Table 1 lists those programs that are funded going forward in the draft Amendment and includes annual program benefits for existing programs.

There are seven proposed programs that have been evaluated in the NYSERDA's New York State Regional Greenhouse Gas Initiative-Funded Programs status reports and another one that I think can be characterized by a program evaluated in the reports. The latest report, Semiannual Status Report through December 31, 2019 includes a summary of expected cumulative annual program benefits. I extracted CO2 reductions per ton data for the following budgeted programs, projected CO2 reductions[1] in parentheses, in Table 1:

- NY-Sun and NYSERDA Solar Electric initiatives (19,380 tons),
- LIPA Energy Efficiency and Renewable Energy (170,683 tons),
- EmPower New York (454 tons),
- Assisted Home Performance with ENERGY (816 tons),
- Clean Energy Communities (19,737 tons),
- Clean Energy Fund (276,062 tons),
- NYS Environmental Tax Credits, assuming that these benefits equal NY Sun benefits (178,295),
- Green Jobs- Green New York (141,598 tons).

Overall proposed funding for these eight programs total over $416 million and based on performance documented by NYSERDA are expected to reduce CO2 emissions 807,024 tons at a CO2 cost reduction of $516 per ton.

The draft Amendment proposes two new programs that I assume will result in emissions reductions. Assuming the same cost per ton reduced as the eight programs with proven records, then the $40.4 million allotted to them will result in 78,341 tons of CO2 reductions. This is a conservative estimate as the following descriptions show.

The Pilot Projects with Municipal Utilities program proposes an allocation of $1M annually over the three-year plan to develop partnerships with municipal utilities and/or rural cooperatives for innovative approaches to energy efficiency or clean energy investments that will both advance the realization of

[1] All CO2 cost effectiveness estimates are based on the annual $ per ton savings.

the CLCPA renewable and zero-emission electricity system goals for these systems, as well as provide insights for technology applications or clean energy market approaches that can be applied in service territories across the State. NYSERDA will work with the municipal utilities as well as other state energy agencies and authorities on valuable projects, which may include activities for low- and moderate-income energy efficiency, renewable energy integration into existing systems, battery storage applications, and other demonstrations that may help leverage funding from third-party sources and which will advance deep decarbonization for the utility systems and the state generally. The RGGI funds spent on these pilot projects may eventually reduce CO2 emissions from the RGGI affected sources but it is not clear how much of a reduction these projects could generate.

The Disadvantaged Communities Schools and Buildings program proposes an allocation of $37.4M over the three-year plan to invest in low-carbon solutions for schools, public housing, and other buildings located within and serving disadvantaged communities. The program will provide both professional resources needed for planning and funding of demonstrations to create a model for decarbonization of schools, financial support for green/clean school curriculum development, workforce training, and assessments of improvements of indoor air quality associated with the building upgrades and pilots of electrification and other low-carbon solutions in affordable and public housing to drive future capital investment in proven decarbonization solutions. It is impossible to estimate just how much this money will reduce CO2 emissions but I am not optimistic that there will be many.

There are four budget line items that had allocations in the cumulative funding FY19-20 category, are targeted for funding in the draft Amendment and do not have any effect on CO2 reductions. The Electric Generation Facility Cessation Mitigation program ($20 million allocated) provides grants to local government entities that demonstrate qualifying reductions in tax payments when electric generating units are retired due to New York policies. There are three line items for overhead: Program Administration ($29 million), RGGI Inc pro-rata costs ($3.3 million) and State Cost Recovery ($4.5 million).

It is disappointing that the draft Amendment proposes three new programs totaling $34 million that will not reduce CO2 emissions. The draft Amendment states that "The New York State Budget for FY20-2021 directed NYSERDA to transfer $5 million in RGGI funds to the Environmental Protection Fund (EPF)" and goes on to claim that this operating plan assumes annual funding to support EPF programs that advance New York's leadership in reducing greenhouse gas emissions such as Climate Smart Communities, Smart Growth, and Greenhouse Gas Management". Actually, the EPF is "a source of funding for capital projects that protect the environment and enhance communities", so this represents using RGGI funds to balance the budget. Absent a major change to the program this will not reduce emissions.

The Community and Stakeholder Engagement program proposes $1 million in annual funding from FY21-22 through FY23-24 to increase engagement of residents and communities, support the participation of community-based and advocacy organizations in stakeholder meetings, and supporting local projects. The plan is to launch a network of Community Energy Hubs wherein community and locally-based organizations will provide outreach and education services to help low-income residents and small businesses make informed energy choices and access incentives and other resources to implement clean energy projects. It is unclear how this funding will directly reduce CO2 emissions.

The Priority Population Workforce Development program allocates $11 million over three years to expand access to NYSERDA's On-the-Job Training program, which provides wage subsidies to businesses that hire new workers, high efficiency HVAC and electrification career pathways training to prepare new workers for jobs, and support new initiatives to test the Pay for Success model for workforce training-outcomes, and fund fellowship positions for organizations serving disadvantaged communities. All activities will have a focus on priority populations and disadvantaged communities but there are no direct CO2 reductions expected.

Finally, there is one program that will actually increase electric generation emissions. ChargeNY is a program to promote plug-in electric vehicle (PEV) adoption by consumers across New York. The draft Amendment proposes $52.8 million, 9% of the total funds in the revised FY20-21 to FY23-24 budget, for this program. Because RGGI is a control program for the electric generating sector I do not think that any RGGI funds should be used for this program. In the first place, I think funding should be only be for programs that displace fossil-fired electric generating either directly or indirectly. At some point New York will have to rely on the reductions produced from RGGI investments because the electric sector has no direct options to reduce CO2 emissions other than fuel switching or running less. There is not much opportunity for fuel switching and running less may have reliability implications unless zero-emission resources are available or load is reduced. Furthermore, the costs of RGGI affect electric consumers and all the investments should be focused on reducing their costs and not used in a different sector.

Conclusion

There are 18 proposed programs that have been allotted funds for the revised FY20-21 through FY23-24 budget years. I classified them into five categories in my review. Eight programs were funded before 2020 and have been evaluated in the NYSERDA's [New York State Regional Greenhouse Gas Initiative-Funded Programs status reports] so have estimates of the cost to reduce CO2. They are allocated $416.2 million or 69% of the funds and, based on the statue report estimates, could reduce CO2 emissions just over 807,000 tons. Two new programs could also reduce CO2 emissions up to 78,431 tons based on similarities to existing programs. There is one program and four administrative line items totaling $76.8 million or 13% of the total that do not directly reduce CO2 emissions. It is disappointing that two new proposed programs totaling $14 million or 2% that will also not directly reduce CO2 emissions. It is unacceptable that the draft Amendment proposes to allocate $52.8 million or 9% of the total budget to the ChargeNY program that will increase CO2 emissions. The ChargeNY funds should be re-allocated to benefit the electric ratepayers who are paying for RGGI allowances in their bills.

I also have reservations about the proposed emphasis on disadvantaged communities. In the first place the requirement for targeted investment benefits may have the perverse effect of increasing the overall cost of energy because those investments may not be the most cost-effective approaches to reducing CO2 emissions. If that is the case then anyone who is not a direct beneficiary of the benefits is going to be hurt. Although this probably is not the appropriate venue, somewhere the State needs to track energy poverty or energy burden and the effect of these policies on those who can least afford additional energy costs so that no one is literally left out in the cold.

The observed cost per ton reduced estimates should also be addressed. Overall, the cost per ton reduced for the existing programs in the budget is $515.69. Emphasis on investments should consider investing on the better effectiveness estimates or developing programs to bring those costs down. The recently adopted Value of Carbon Guidance recommended a 2020 value of carbon dioxide of $53-421 per ton, with a central value of $125 per ton; a 2020 value of methane of $1,527-6,578 per ton, with a central value of $2,782 per ton; and a value of nitrous oxide of $19,084-140,766 per ton, with a central value of $44,727 per ton. If we only consider the carbon dioxide values the cost effectiveness exceeds the purported negative externality costs then it suggests that it would be more appropriate to invest the proceeds elsewhere[2]. A focus on reducing the energy burden of disadvantaged in general and in overburdened and underserved communities in particular is more appropriate. In order to address the effect of climate change adapting and becoming more resilient to extreme weather rather than attempting to mitigate those impacts would also be more appropriate than funding wind and solar projects that have their own environmental consequences.

[2] In the future the NYSERDA status reports are going to have to breakout expected methane and nitrous oxide emission reductions, if any, in order to reflect the full value of RGGI proceeds investments.

Table 1: Consolidated Summary of Programs Proposed in the 2021 Operating Plan Amendments and the Expected Annual Program Benefits in the NYSERDA Semiannual Status Report Through December 31, 2019.

Table 1: Revenues and Program Funding Allocations in Operating Plan Amendment for 2021

Program	Revised FY20-21	FY21-22	FY22-23	FY23-24	Budget Total FY20-FY24	Budget with Status FY20-FY24	Budget with Status CO2 (tons)
NY SUN NYPA Customer Incentives	6,000,000	3,000,000	1,000,000		10,000,000	10,000,000	19,380
LIPA Effciency and RE	25,000,000	20,000,000	20,000,000	20,000,000	85,000,000	85,000,000	170,683
Empower NY	300,000	300,000	300,000	300,000	1,200,000	1,200,000	454
Assisted Home Performance with Energy Star	200,000	200,000	200,000	200,000	800,000	800,000	816
Clean Energy Communities		3,000,000	3,000,000	3,000,000	9,000,000	9,000,000	19,737
Transfer to(from) Clean Energy Fund	52,338,026	33,789,264	21,331,778	25,000,000	132,459,068	132,459,068	276,062
NYS Environmental Tax Credits*	23,000,000	23,000,000	23,000,000	23,000,000	92,000,000	92,000,000	178,295
Green Jobs-Green NY-Additional Funding	37,700,000	12,000,000	18,500,000	17,518,656	85,718,656	85,718,656	141,598
Pilot Projects with Municipal Utilities		1,000,000	1,000,000	1,000,000	3,000,000		
Disadvantaged Communities Schools/Buildings		13,000,000	8,600,000	15,800,000	37,400,000		
Electric Generation Facility Cessation Mitigation	20,000,000				20,000,000		
Program Administration	6,500,000	7,500,000	7,500,000	7,500,000	29,000,000		
RGGI Inc pro-rata costs	825,000	825,000	825,000	825,000	3,300,000		
State Cost Recovery	1,121,406	1,173,687	1,101,203	1,130,668	4,526,964		
NYS Environmental Protection Fund	5,000,000	5,000,000	5,000,000	5,000,000	20,000,000		
Community Energy Engagement		1,000,000	1,000,000	1,000,000	3,000,000		
Priority Population Workforce Development		2,000,000	2,000,000	7,000,000	11,000,000		
Electric Vehicle/Charge NY		21,500,000	16,300,000	15,000,000	52,800,000		

Table 2. Summary of Expected Cumulative Annual Program Benefits through December 31, 2019 in NYSERDA RGGI Semiannual Status Report

Status Report Program	Total Costs (millions of dollars)		Energy Savings (Annualized MMBtu)			Net Electricity Savings or RE Generation (Annualized MWh)			Net Greenhouse Gas Emission Savings (Annualized Tons CO2eb)			Cost Benefit Ratio
	Incentives	Associated Costs	Installed	Pipeline	Total Committed	Installed	Pipeline	Total Committed	Installed	Pipeline	Total Committed	$/Ton CO2e
NY-Sun Initiative	$66.30	$1.40				203,722	54	258,034	103,999	27,173	131,173	516
LIPA Energy Efficiency & RE Initiative	$204.60		30,707		30,707	783,980		783,980	411,124		411,124	498
EmPower New York	$26.00	$1.80	156,474	625	157,099	113		113	10,464	44	10,508	2,641
Home Performance with ENERGY STAR	$21.40	$3.00	329,779		329,779	1,874		1,874	24,878		24,878	980
Clean Energy Communities	$2.10		13,596		13,596	7,435		7,435	4,574		4,574	456
Clean Energy Fund	$25.20	$8.70	226,775	153,616	380,391	21,651	53,103	74,753	35,725	34,926	70,652	480
*Assumes that environmental tax credits are NY tax credits for home solar installations so same cost benefit ratio as NY SUN												
Green Jobs - Green New York	$126.10	$25.40	2,579,332	23,136	2,602,468	161,004	3,837	164,841	246,826	3,435	250,261	605