STATE OF NEW YORK
Department of Environmental Conservation and New York State Energy Research and Development Authority

In the Matter of New York's Cap and Invest Program

Comments of the New York Independent System Operator in Response to the DEC and NYSERDA Request for First Round Feedback on the Regulations Being Developed for the Cap-and-Invest Program

The New York Independent System Operator, Inc. ("NYISO") hereby submits written comments to the New York State Department of Environmental Conservation ("DEC") and the New York State Energy Research and Development Authority ("NYSERDA") on the regulations being developed for the Cap-and-Invest Program (the "NYCI Program" or "NYCI"). The NYISO values the opportunity to provide initial feedback to the DEC and NYSERDA on the NYCI Program.

The NYISO applauds the Climate Action Council's decision to develop an economy-wide initiative for targeted environmental attributes and quantified pollution reductions. The economy-wide approach envisioned in this early phase of developing the NYCI Program is a viable and efficient path to pursue the numerous goals of the CLCPA and to implement the Final Scoping Plan recommendations. A well-designed NYCI Program, supported by a robust and transparent market for purchasing and trading emission allowances, would encourage investment, decrease costs, and achieve the state's environmental mandates. Such an economy-wide mechanism could drive efficiency and the desired results by requiring stakeholders and industry participants to address the tradeoffs across the broad cross-sector objectives of the CLCPA.

The CLCPA is transforming New York's economy and a thoughtful set of NYCI Program regulations could continue driving profound changes across all sectors of the economy, including the electricity sector. The NYISO, through our mission to maintain and enhance power system reliability and operate open competitive wholesale electricity markets for New York, will provide steadfast support throughout this transformation.

Given the timeline and scope of the CLCPA mandates, wholesale markets are essential to maintain reliability and drive the necessary investment and innovation. Reflecting the cost of greenhouse gas emissions and public policy mandates for the electric sector within the wholesale markets is critical, would help reduce the contract costs for new resources, and could be accomplished by including the electric sector in the NYCI Program or through a sector-specific carbon pricing mechanism. The NYISO developed a carbon pricing design several years ago with its stakeholders, positioning the NYISO to quickly reassess and integrate the mechanisms required to reflect the cost of carbon dioxide emissions in the wholesale markets as a step to achieving the CLCPA mandates.

The NYISO is committed to reliable operation of the electric system 24 hours a day, 365 days a year, and to planning a reliable system for the future grid. Any programs implemented to achieve success in the CLCPA must be designed in consideration of the necessity of maintaining the reliability of the electric system, including safeguards to deal with unplanned circumstances during the transition. The Climate Action Council's Final Scoping Plan accurately notes, "[w]hile transitioning away from fossil fuel use, maintaining reliable access to power, whether through centralized or distributed energy sources, is crucial for maintaining good public health in our energy-dependent society."[1] The NYISO urges the DEC and NYSERDA to consider these

[1] *See* Final Scoping Plan at p. 105.

comments and the need to prioritize electric system reliability as we work to achieve the environmental objectives needed to achieve the CLCPA mandates. The NYISO looks forward to continuing to work with the DEC and NYSERDA on the regulations required to achieve these policy objectives.

I. NYISO Wholesale Electricity Market Fundamentals

Competitive wholesale electricity markets administered by the NYISO and overseen by the Federal Energy Regulatory Commission have complemented environmental regulations, public policy initiatives and efforts to expand renewable power resources that serve consumers since the inception of wholesale markets in New York in 1999. Over the past 20 plus years in New York, wholesale electricity markets have worked in tandem with air-quality regulations to cut the sulfur dioxide ("SO_2") emission rate by 99%, the nitrogen oxide ("NOx") emission rate by 91%, and the rate of carbon dioxide emissions from the power sector by roughly 42%. As noted in the Climate Action Council's Final Scoping Plan, the electricity sector comprised 13% of statewide emissions in 2019.[2]

Competitive wholesale electricity markets are an efficient and necessary element of achieving New York State's resource development and environmental goals. The wholesale markets minimize total energy production costs to provide low-cost electricity for all New Yorkers based on the electricity suppliers available to reliably meet demand. To allow the markets to minimize the cost of supply, all resource technologies that can support system needs, including renewable resources, storage resources, dispatchable resources, and resources fueled by new technologies, must be encouraged to fully participate in the NYISO-administered wholesale electricity markets. Efficient wholesale markets depend on competition among

[2] *See* Final Scoping Plan at p. 219.

suppliers and transparent price signals that accurately reflect system needs and the variable costs of available suppliers. The price signals in the NYISO markets provide the foundation for economically efficient storage, generation, transmission, and demand response investment decisions in locations where the resources are needed.

The NYISO's successful record of supporting federal and state environmental policies reflects rules already in place that allow emitting resources to incorporate the cost of environmental compliance in their wholesale market offers. The resulting wholesale market prices are just and reasonable and reflect these compliance costs. For example, electric generators include the cost of purchasing Regional Greenhouse Gas Initiative ("RGGI") carbon dioxide emission allowances in their energy market offers. The costs incurred by generators to purchase SO_2 and NOx emission allowances to comply with federal environmental regulations are similarly recognized as legitimate variable costs and included in suppliers' energy market offers. This means that lower emitting resources have an edge over higher emitting resources and are dispatched ahead of more expensive units to meet load. When an emitting resource is the marginal price-setting resource, the wholesale market price, paid to all resources supplying electricity, includes the costs of compliance with these environmental regulations and increases the price paid to all generators. For example, when an emitting generator offers energy into the NYISO-administered market, its offer price would include the generator's NYCI or carbon pricing cost. Generators with higher emission rates will face larger NYCI or carbon pricing costs and, therefore, submit higher priced offers to sell electricity. The NYISO-administered markets, in turn, select the cleaner, and less expensive, generators first. The economic supply stack naturally rewards lower variable cost resources, encourages efficiency improvements, and motivates reduction of pollutant emissions by increasing profit margins.

Aligning market signals with policy goals is critical to maintaining electric system reliability while also achieving public policy goals and requirements. Appropriate market signals could flow from a well-designed and timely-implemented NYCI program or an electricity-sector specific effort, like the NYISO's carbon pricing design. The NYISO's carbon pricing proposal was previously developed with its stakeholders and collaboration with New York State as a market-friendly mechanism to reflect the societal cost of carbon dioxide emissions in the NYISO-administered wholesale energy markets and could be implemented in a timely manner. This electricity-sector specific approach would incorporate the cost of carbon dioxide emissions into the NYISO-administered wholesale energy markets using a state-determined cost of carbon dioxide emissions price in dollars per ton. Under this approach, the NYISO would expect the State to develop a cost of carbon dioxide emissions. Suppliers would then embed carbon charges in their energy offers (*i.e.*, a supplier's carbon dioxide emissions adder in $/MWh) and the NYISO's existing processes would incorporate the carbon price into the power system commitment, dispatch, and price formation. As a result, the market-clearing price of energy would increase whenever carbon dioxide-emitting resources are on the margin. All suppliers, including clean energy resources such as land-based wind and solar, offshore wind resources, and any new clean-energy technologies, would receive the higher energy price, net of any carbon dioxide charges due on their emissions, if applicable. Pollution emitting resources would see a reduction in their revenues commensurate with the emissions rate of their facility. As a result, lower- and non-emitting resources would benefit from higher net revenues, and the wholesale energy market would harness the power of competition to further encourage the investment and innovation needed to meet CLCPA mandates. Importantly, this approach could be utilized on its own or as a transitional mechanism while NYCI is developed. The same

principles would then apply with the implementation of NYCI including the electric sector. The NYISO's carbon pricing design would support the overall transition to a cleaner resource base by providing a comparative disadvantage to carbon dioxide emitting resources, through lower net revenues, and an incentive to new resources with lower variable operating costs.

II. Electric System Reliability Depends on the Availability of Fossil Fuel-Fired Generation in the Near Term

Any program that caps total greenhouse gas emissions, or otherwise limits greenhouse gas emission from electric generators, must consider that fossil fuel-fired generation will remain critical to reliable electric system operation until adequate quantities of flexible, long-duration, and controllable zero-emitting resources are available to meet electricity demand and maintain system reliability. The NYISO encourages the DEC and NYSERDA to design the NYCI Program with an initial emission cap that enables fossil fuel-fired generation to operate to serve load and maintain system reliability as defined by relevant reliability criteria, while requiring those emitting generators to purchase emission allowances that support the overall CLCPA requirements. The emission cap should be designed to decline on a timeline that allows emitting generation to retire after suitable replacement generation has been developed and deployed. An overly restrictive emission cap could require emitting generation to retire before suitable replacement generation is available to support system reliability as defined by relevant reliability criteria.

New Yorkers have long enjoyed reliable electric service and will expect the same level of service to continue throughout the transition of our power grid. Reliable, dispatchable electric generation supports every aspect of New Yorkers' daily lives and is vital to the state's economy. A diverse resource mix that integrates sufficient levels of dispatchable, reliable generators, with capabilities to provide energy as the electric system requires, currently promotes grid resilience

and minimizes the risk of power disruptions. This resilience is increasingly important as extreme weather conditions place power systems across the nation at risk of not reliably serving electricity customers. Any blackouts, or electric service interruptions, would disrupt normal life and have a significant impact on public health, welfare, and safety.

Today, natural gas-fired, and other fossil fuel-fired, generation provide much of the flexible, controllable energy that is necessary to meet demand and to maintain reliability. Under an economy-wide NYCI Program, adequate emission allowances must be available for these generators to purchase in order to perform consistent with the operational needs of the system and additional allowances must be available on a contingency basis to the extent these generators are needed to meet reliability criteria of the electric system as the grid transitions to meet policy requirements. At the time when the NYCI Program becomes effective, the program should allow NYISO to schedule electric system generators to satisfy all mandatory state, regional, and federal reliability standards as is done today. NYCI Program regulations should also include a reliability safety valve, such as an allowance set aside mechanism,[3] to permit emitting generators to operate in exceedance of their emission allowances or, if necessary, in exceedance of the economy-wide cap when operation is required to meet mandatory electric system reliability rules that protect the system from risks of service interruptions. The NYISO and electric generators within New York should not have to choose between complying with NYCI Program regulations and avoiding a blackout.

The NYISO recognizes and is planning for the eventual deactivation of emitting generation (*i.e.*, largely fossil fuel-fired generation) in New York State. To maintain electric

[3] The allowance set aside could come from within the overall emission budget such that electric generators have a compliance path available to allow them to make an instantaneous decision that could be required to keep the lights on. Exceptions to the NYCI Program compliance requirements, while necessary, should be limited to extreme considerations so as not to distort the performance of allowance markets.

system reliability, the NYISO must specifically plan for the deactivation or reduced operation of every such generator. The NYISO's planning processes evaluate the unique circumstances of each generator, identify reliability needs, and solicit solutions to resolve reliability gaps resulting from any resource retirement. This process maintains the reliability of the electric system that serves consumers' needs. If a reliability need arises and another timely solution is not available, the NYISO may request such generators to remain in service beyond their planned retirement date to temporarily resolve an electric system reliability need while a permanent solution is completed.[4] In this case, the NYCI Program should allow a generator needed to temporarily resolve an electric system reliability need to continue to operate and to purchase or secure emission allowances to support its operation. This would allow the generator to support electric system reliability while also tracking the greenhouse gas emissions. Such a need could arise if the total emission cap is set too low, the total emission cap declines too quickly, or sufficient non-emitting generation is not available to serve consumer demand and meet mandatory reliability criteria.

The NYISO's ability to facilitate a reliable electric system, including delivery to consumers, requires that the introduction of new resources be coordinated with and occur prior to the orderly retirement of any existing generators. This order of operations is critical for maintaining reliability in conjunction with such retirements. Electric system reliability margins are already close to minimum reliability requirements in certain areas across New York and are tightening. If these margins are totally depleted, the reliability of the grid would be at an unacceptable risk and power outages could disrupt normal life or negatively impact public

[4] *See* OATT Sections 38.4 and 38.11.

health, welfare, and safety.[5] As the NYISO recently reported in the 2021-2030 Comprehensive Reliability Plan and the 2023 Quarter 1 Short-Term Assessment of Reliability, the New York grid may not have the transmission system and generation resources to reliably serve electric demand in the future.

A sufficient fleet of new generation resources that satisfy the CLCPA, with the appropriate reliability attributes, ***must*** be available ***before*** the existing, traditional generators retire voluntarily or are forced out of service. An essential step to facilitate the orderly transition from traditional generators to emission-free electricity is promulgation of appropriate, defined NYCI Program milestones and ample lead time for new resource development.

III. New York Cap and Invest and the Electricity Sector

A well-designed NYCI Program, supported by a robust and transparent market for purchasing and trading emission allowances, could encourage investment, decrease overall compliance and consumer costs, and achieve the state's environmental mandates. An economy-wide mechanism that sets a competitively determined price on greenhouse gas emissions, across all sectors with such emissions, could efficiently facilitate reduced emissions by requiring stakeholders and industry participants to address the tradeoffs across the broad cross-sector objectives of the CLCPA.[6] Fully reflecting the cost of greenhouse gas emissions in the electricity market, consistent with the emission allowance price set by the NYCI Program, is an important step to drive the investment and innovation needed to support electric system reliability under the CLCPA mandates. Including the cost of greenhouse gas emissions in the

[5] Federal and state reliability regulators expect the NYISO to comply with applicable reliability requirements to mitigate such risks to the power grid.

[6] A competitive auction process reduces the risk of price uncertainty, which could adversely affect those entities investing in the generation expansion required to support the CLCPA mandates.

wholesale electricity markets provides a more efficient investment signal than valuing the "clean" attribute through RECs alone. Given the timeline of the CLCPA mandates, including the electric sector within NYCI should be given due consideration.[7]

The NYISO offers the following observations related to the electricity sector for the DEC and NYSERDA to consider while developing the regulatory framework necessary to implement the NYCI Program.

A. NYCI's Interaction with the Regional Greenhouse Gas Initiative

The DEC and NYSERDA should evaluate including New York's electricity sector in both the NYCI Program and RGGI. Within the power sector, having all sources participate in NYCI is essential to providing a consistent pricing and compliance mechanism across all generators, large and small regardless of being in front of and behind the meter, and avoid unintended consequences of incenting inefficient emitting resources. If certain generation resources, but not all, were subject to NYCI but not RGGI, or vice versa, the disparate treatment could drive behaviors that lead to suboptimal results and potentially increase compliance costs and actual emissions. From a power sector perspective, the NYCI Program should cover all RGGI-regulated generators in New York as well as all non-RGGI-regulated generators (fossil-fueled central station and distributed generation resources) such that all electricity generators are subject to the same emission allowance cost and requirements, subject to a caveat discussed below. This approach could support reflecting the cost of greenhouse gas emissions in the NYISO-administered energy markets without distortion relative to the rest of the New York economy.

[7] If NYCI implementation is expected to require a prolonged process, the NYISO's carbon pricing design could be considered as a transitional mechanism to jumpstart investment signals in the electricity sector. *See* supra at p 3.

If certain electric generators are subject to NYCI and RGGI while others are only subject to NYCI or RGGI, the potential double counting of greenhouse gas emissions from generators that participate in both markets must be addressed. An adjustment mechanism could be introduced to subtract the RGGI compliance cost from the NYCI cost paid by generators. In the end, New York's power sector should be included in the NYCI Program, and every generator operating in New York should be subject to the same total allowance price per unit of greenhouse gas emissions.

B. NYCI Auction Mechanics

The regulations supporting the NYCI Program should clearly identify the attribute that is valuable or necessary to achieving that policy but not currently being priced in the economy (*e.g.*, greenhouse gas emissions in a specified unit). This attribute should then be systematically valued through an allowance auction.

The NYISO offers a number of components that need to be considered further as an economy-wide greenhouse gas emission allowance auction and trading system is developed.[8] Auctions should be open to all emission sources across all sectors subject to the emission reduction requirements of the CLCPA and to any other person or entity that chooses to participate. There should not be any limits on who can purchase emission allowances through the state-administered auctions. All allowance purchases through a periodic the state-administered auction should be subject to a common allowance price. Any NYCI allowances made available through an auction should satisfy the requirements of a current or future compliance period (*i.e.*, allowances from a prior compliance period should not expire). Demonstration of NYCI Program compliance should be required on predefined dates

[8] These comments do not offer an exhaustive list of key auction components.

(*e.g.*, some number of months after the end of a prescribed compliance period). Trading of allowances should be permitted outside of the structured auction process.

C. Leakage

Any state-specific program addressing greenhouse gas emissions should expose all generation in New York and, to the extent possible, all electric power entering New York to the same greenhouse gas emission requirements as internal New York generation. Uniform compliance requirements are critical to informing operational decisions and financial offers to provide electricity in the NYISO-administered wholesale markets.

New York could implement a "border adjustment mechanism" (a concept previously proposed by NYISO in the context of its carbon pricing design) to maintain economic efficiency and to address market inequities associated with imports of power from outside New York and exports of power to neighboring states.[9] Such a mechanism could be designed to ensure that exports of power compete on equitable grounds with resources in the state where the export will deliver power. At the same time, imports of power should compete on equitable grounds with generators located in New York State. When designing a border adjustment mechanism, it is important to note that, subject to limited exceptions,[10] linking imported power to specific generators outside New York State is impractical and open to errors and/or double counting. Therefore, an approach that assigns compliance obligations to the entity offering the energy transaction may need to be developed based on estimated emissions. While the exact production

[9] If the NYISO is asked to develop and administer a border adjustment mechanism, it would take time to design and implement and have to be approved by NYISO's stakeholders and accepted by the Federal Energy Regulatory Commission.

[10] The DEC and NYSERDA could consider treating imports from out-of-state renewables with New York Renewable Energy Credit contracts different than imports supported by other generators in neighboring regions. Special considerations may be required for generating units located in New Jersey but electrically located in the New York Control Area (the area under the control of the NYISO).

characteristics cannot be connected to each import, average greenhouse gas emission profiles can be used to reasonably approximate the greenhouse gas emissions associated with imported power.[11]

A border adjustment mechanism, while complex to develop and implement, is critical to avoiding uneconomic leakage of greenhouse gas emissions to sources outside of New York and to avoiding uneconomic distortions in the NYISO-administered wholesale electricity market. The NYISO is happy to help the DEC and NYSERDA develop a workable border adjustment.

D. Market Monitoring

An independent market monitoring unit should be created or retained to evaluate the market integrity, competitive performance, and efficiency, and to protect against collusion or other market manipulation. Independent market monitoring units play a critical role in reviewing and reporting on the design and operation of markets and uncovering wrongdoing or unintended consequences by participants in those markets. Wrongdoing such as hoarding or other manipulation could reduce allowance availability, impact NYCI Program confidence, and jeopardize electric system reliability.

[11] Average hourly emission profiles will likely be available for neighboring states supplying power to New York based on the daily, monthly, or seasonal electric generation data.

IV. Conclusion

The NYISO appreciates the DEC's and NYSERDA's consideration of these comments and looks forward to working with the DEC and NYSERDA on the regulations needed to meet the CLCPA requirements while maintaining electric system reliability for all New Yorkers.

Sincerely,

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