

Managing Energy System Reliability During the Clean Energy Transformation

The transition from conventionally-fueled dispatchable resources to renewables – with unavoidable intermittency – to meet CLCPA goals must be accomplished in a way that maintains reliability.

New York’s reliable energy systems are a result of long-established methodical planning that considers the long lead times needed for constructing new generation resources, transmission and distribution facilities, as well as the importance of continuous access to energy. It is imperative that implementation of the clean energy transformation is accomplished in a thoughtful and well-timed manner, while preserving the careful planning and robust process established over time. Adequate lead time is required for transmission and distribution investments, and conventional generation resources should not be retired before adequate and reliable renewable replacements are available.

Reliability can be maintained by optimizing the decarbonization of both the electric and gas delivery systems. In the same way that the electric generation mix continues to transition to less carbon emissions, the gas delivery system can also be decarbonized with a transition to no- and low-carbon fuels that provide diversified, safe and secure sources for dispatchable generation units.

The ambitious electrification efforts required to meet CLCPA goals also call for unprecedented load increases that necessitate advanced planning and forecasting for infrastructure build-out; in some cases a “build in advance” approach to electric infrastructure and decarbonization initiatives for the gas system – such as RNG, hydrogen and geothermal projects - will be needed to allow for timely, cost-effective provision of energy service. Customers also have increasing expectations of reliability given the “work-from-home” post-COVID phenomenon. Meeting these expectations while maintaining reliability will become more challenging with more frequent and severe weather events.

To meet CLCPA requirements, we must leverage existing infrastructure and invest in expanding transmission and distribution systems to increase access to new dispatchable clean resources. Integration of inverter-based resources (e.g., long-duration battery, or offshore wind) presents unique challenges such as load and supply gaps, multi-day lulls, and seasonal variations in production that must be addressed through proper review and planning process working alongside State agencies, regulators, and stakeholders.

The State’s utilities have actively engaged on reliability matters with the New York Independent System Operator (NYISO) and the New York State Reliability Council (NYSRC), given their valuable role and established expertise in maintaining electric system reliability. We have worked with NYISO on various studies, transmission planning, and permitting processes, and collaborate on NYISO’s “Grid in Transition” effort to address the impact of clean energy transformation on the electric system. Utilities and regulators advanced strategic investments

“Reliability and resiliency of energy systems is critical to providing robust systems that respond to changing demand in real-time and withstand unexpected events.”

Climate Action Council Draft Scoping Plan

like the Reliable Clean City transmission projects to address critical transmission needs in the most cost-effective and reliable manner.

Utilities will continue to collaborate with NYISO, NYSRC, and state and local regulators on a nimble and careful reliability planning approach to build a more flexible, reliable, cleaner future grid in the low-carbon transformation.