# BATTERIES INCLUDED: NEW YORK'S ENERGY SUPPLY TRANSFORMS

By: John L. Parker

The electricity market is being transformed. It involves solar and wind power but it also includes battery energy storage systems to ensure reliability and cost effectiveness.

In 2019, the Community Leadership and Climate Protection Act set ambitious climate change goals in New York state law. Among the legal mandates is a 40% reduction in greenhouse gases by 2030 and an 85% reduction by 2050. The law requires that 70% of the State's energy is to come from renewable energy sources by 2030, and 100% emission free electricity by 2040. The law also required 3 gigawatts of energy storage by 2030. For context, a single gigawatt is about equivalent to two coal fired powerplants and can power 750,000 homes. The state's Climate Action Council is developing plans to achieve these substantial reductions. It completed its final scoping plan in December 2022. At the same time, the State has denied new permits for three fossil fuel power plants.

In the 2023 State of the State address, Governor Hochul announced a doubling of the requirement for battery storage systems from 3 gigawatts to 6 gigawatts. The increased commitment is a key component of the State's long-term energy strategy.

The newly transformed energy market will no longer rely on fossil fuel power plants. Instead, it will be decentralized with many sources of electricity. Indeed, solar energy projects are being sited with increasing frequency throughout New York, particularly upstate. In addition, billions of dollars of successful federal auctions will result in millions of homes being powered by wind turbines located in what is called the New York bight – the area in the Atlantic Ocean that extends from Cape May, New Jersey to Montauk Point. The commitment to construct these wind turbines is revitalizing ports and former industrial areas from Albany to New York City to Long Island.

One question often asked is how do the renewable energy systems fare when the sun is down and the winds are tranquil, resulting in a loss of continuous power from these sources. The answer is that battery energy storage systems are the key component to ensuring resilience and reliability in electricity delivery, whether or not the sun is shining or the wind is blowing. The battery systems for today, and those that will become increasingly important to Long Island, will include smaller retail storage (community, commercial, and industrial), residential systems, and larger bulk storage systems that can deliver power on demand on the scale that

rivals traditional power plants. The best example is the largest of these facilities, currently operating in Saratoga County with a 20 megawatt capacity.

The State's increased goal of 6 gigawatts of battery storage, and interconnection constraint issues on bringing upstate generated energy downstate, will result in an increase in battery systems being proposed and installed in communities throughout Long Island. Some will be smaller residential units, but many will be larger retail units likely in the form of a combination of the installation of standardized battery storage units, and some will be even larger capacity bulk systems.

The siting of battery systems will require government approvals at both the local and state levels, depending on the size and capacity of the proposed systems. Many communities do not have local zoning codes addressing these battery systems or the requirements for their approval. In addition, larger capacity systems will move through the approval process of the Office of Electricity Siting or ORES, a new State agency specifically created for these approvals. New law and regulations require ORES to issue approvals for renewable projects of at least 25 megawatts which can include battery energy storage systems. It sets strict timelines for the approval process and requires local community input. ORES notes that its efforts have resulted in meeting timelines in every application process thus far. Part of the effort consolidates key aspects of environmental review in a pre-application process addressing wetland, wildlife, and archeological issues, among others. The ORES process is streamlined from the traditional State Environmental Quality Review Act process common for typical applications required for local community approvals. ORES notes that in a majority of applications, they worked cooperatively with the local municipality where the facility is located.

The location of battery storage systems, particularly in developed and urban environments prompted New York City, with the assistance of its Fire Department officials, to develop strict fire standards to address potential safety issues. Some have expressed concerns about the possibility of fires from battery systems, noting cell phone fires in particular since examples of these incidents, which can be tragic, gain news coverage. In addition to New York City, the State has also addressed these concerns, updating, in 2020, the State Uniform Fire Prevention and Building code to specifically address safety issues in design and installation of battery systems. To be sure, battery storage systems cannot just be located anywhere, and must meet State safety codes, in addition to applicable State and local requirements addressing their location, zoning issues, and environmental concerns.

New York state has set an ambitious path toward a complete transformation of the state's energy systems. The changing climate has demanded a decarbonization

response and state law now requires it. The systems delivering our power will be new and different. The lights will go on, and folks will not notice a difference in their everyday lives when they flip the switch. What is clear, however, is that Long Island's energy future will have batteries included.