

Energy Storage in New York

Technology, Regulations, and Safety



Energy storage is critical to New York's clean energy future.

What Are Energy Storage Systems?

Energy storage is essential for creating a cleaner, more efficient, and resilient electric grid, which can ultimately reduce energy costs for New Yorkers. As New York State transitions to renewable energy technologies like wind and solar, energy storage can provide energy when the wind isn't blowing or the sun isn't shining. Most energy storage systems being deployed around the world today use lithium-ion batteries.

Energy storage systems:

- are a back-up energy source for homes and businesses
- can supply energy to a home, to a business, to a community, or to the electric grid
- can be integrated with wind and solar to enable our transition to a fully decarbonized electric system
- provide economic and environmental benefits to both customers and the electric grid
- helps deliver electricity to meet the demand of customers and increase grid reliability

RESIDENTIAL



Provides back-up power at homes and small businesses. Can offset utility bills by reducing usage during high-price periods.

COMMERCIAL



Provides economic benefits to system owners and the electric grid and reduces pollution for local customers.

BULK



Enables grid decarbonization, provides regional grid reliability, and increases electric system efficiency.



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Differences Between Energy Storage and E-bike Batteries

In recent years, there have been fires in New York caused by batteries that power electric bikes, scooters, and mopeds. Some of these batteries pass rigorous, standards-based safety testing (e.g., UL certification). However, there are others in circulation that have not passed testing, which are believed to be primarily responsible for the recent lithium-ion battery fires in New York City.

In contrast, all energy storage systems authorized for installation in New York must have undergone many stages of rigorous safety testing (e.g. UL certification), have required project design and equipment reviews and inspections by permitting authorities (e.g. Code Enforcement Officials), and are equipped with built-in safety precautions.

Energy Storage Systems: A Regulated Industry

Energy storage systems are thoroughly regulated, with oversight from federal, state, and local authorities. There are thousands of energy storage systems installed in New York that have successfully met all applicable regulations.

Federal: Construction and safety code standards are developed collaboratively, involving years of consensus-building between technology experts and State and local code/building officials. The creation of codes and standards is led by federally approved organizations, including:

- International Code Council (ICC) — developed the International Fire Code (IFC) and revises it every three years
- National Fire Protection Association (NFPA) — developed the NFPA 855 standard for regulating energy storage systems
- Underwriters Laboratories (UL) Standards — developed the UL 9540 standard and the UL 9540A test for energy storage

State: New York State's Code Council reviews and approves codes for energy storage systems in the State, resulting in the Uniform Code (UC), which applies without the need for local adoption. The members of Council represent the Secretary of State, architects, engineers, builders, trade unions, persons with disabilities, code enforcement, fire prevention, villages, towns, cities, counties, State agencies, and the State Fire Administrator. Additionally:

- State Environmental Quality Review (SEQR) assesses environmental impacts of various types of development, including energy storage.
- The Uniform Codes, based on the International Codes, are adapted to suit New York's unique characteristics from nationally recognized criteria for construction and/or associated equipment to ensure the safety of workers and the public.

Local: All code, location, spacing, and other local requirements must be met. In addition to general code compliance, additional site-specific protections may be required to be addressed by operations and emergency procedures and fire service coordination.

- Local zoning regulations designate which zoning districts are appropriate for residential, commercial, and bulk energy storage projects.
- Site plan review and special use permits allow local governments to regulate energy storage systems beyond applicable regulations in the Fire, Residential, and Building codes that apply without need for local adoption.
- The NYS Fire Code contains a peer review requirement, giving local fire officials the authority to mandate that the energy storage developer supply funding for a third-party fire protection engineer to assist local authorities with reviewing project-specific applications.

NYSERDA's Role

NYSERDA's Clean Energy Siting team routinely delivers energy storage fire code and zoning trainings to local decision makers throughout the State.

NYSERDA's [Battery Energy Storage System Guidebook](#) contains information, tools, and step-by-step instructions to support municipalities managing battery energy storage system development in their communities, provides local officials in-depth details about the permitting and inspection process to ensure efficiency, transparency, and safety in their communities.

NYSERDA inspects all energy storage projects supported by its programs prior to commissioning with a detailed checklist to make sure the system has been installed to code and has followed the regulatory requirements.

NYSERDA's Vision

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

NYSERDA's Mission

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

NYSERDA's Promise

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

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