

**Central Hudson Gas & Electric**  
*12<sup>th</sup> Annual Solar+ Summit*

# ***Energy Storage in NYS: Permitting & State Programs***

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**NYSERDA**

# Agenda:

- **Energy Storage Snapshot**
- **NYSERDA Programs & Resources**
- **Storage Permitting in NYS**

A long row of white energy storage containers, likely lithium-ion batteries, is shown in an outdoor setting. The containers are mounted on a concrete foundation and sit on a gravel surface. Each container has a control panel on its side. The background shows a clear blue sky and some greenery. The text "Energy Storage Snapshot" is overlaid in the center in a bold blue font.

# Energy Storage Snapshot

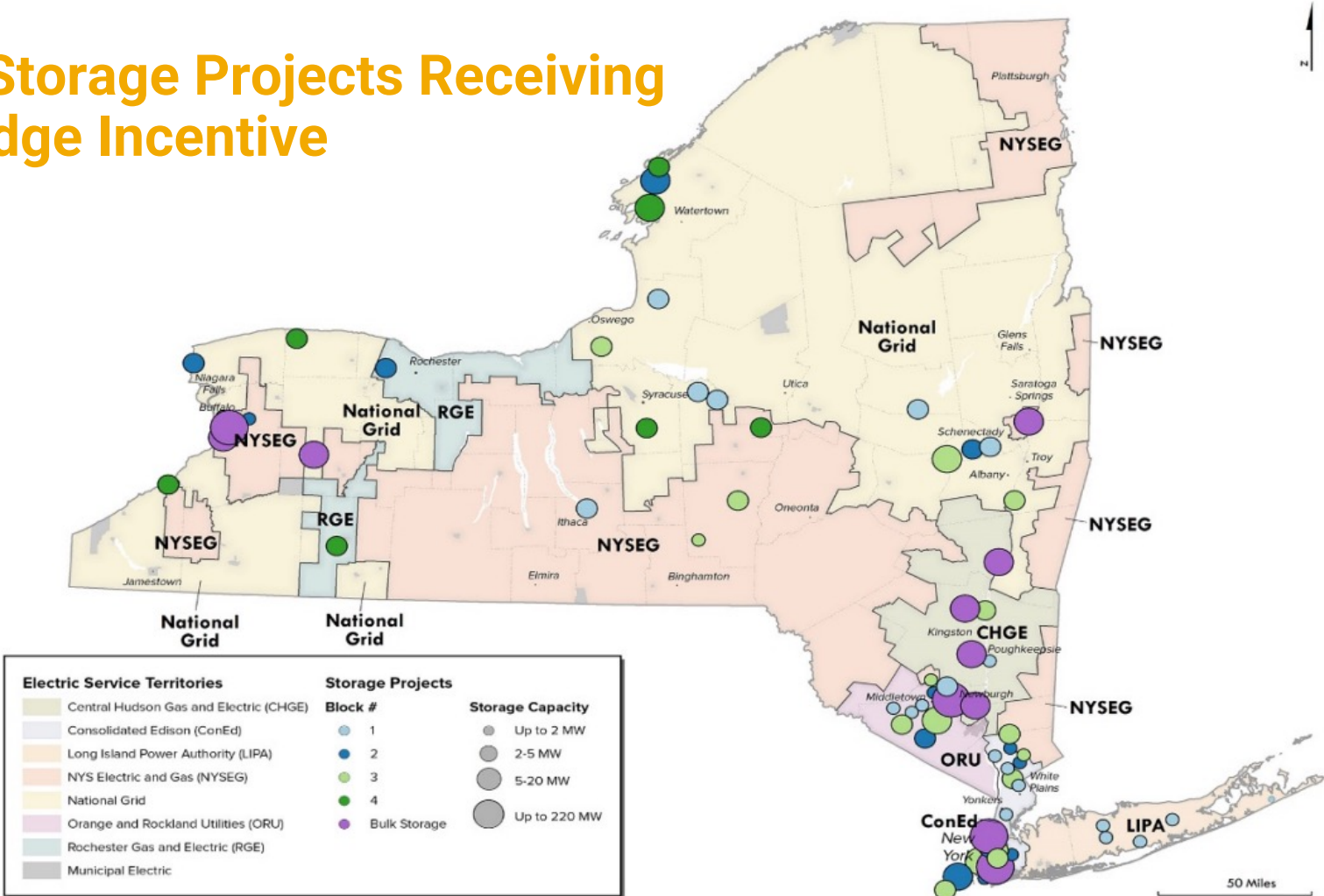
# Energy Storage Snapshot

## Progress on State Targets:

- **Climate Act Targets:** 1,500 MW by 2025; 3,000 MW by 2030
- **As of Dec '21: 1,240 MW under contract**, with ~10% constructed (~83% of 2025 target)
- 415 MW minimum target for **open Utility RFPs** (240 MW for joint utilities, 175 MW for LIPA)
- **Over 1,500 MW anticipated** to be under contract by end of 2022
- Future: Studies show **10-15 GW needed by 2040** to achieve 100% emissions-free electricity by 2040

# Energy Storage Snapshot

## Map: Energy Storage Projects Receiving NYSERDA Bridge Incentive



A row of white electrical cabinets, likely for power distribution, is shown outdoors on a gravel pad. The cabinets are arranged in a line, and the background is a clear blue sky. The text "NYSERDA Programs & Resources" is overlaid in the center in a bold blue font.

# **NYSERDA Programs & Resources**

# NYSERDA Energy Storage Program

Provides incentives & technical assistance to support deployment of advanced energy storage technologies

- **Retail Energy Storage Incentives:**
  - For residential through larger-scale energy storage projects < 5 megawatts (MW)
  - Incentives vary based on region and megawatt-hour (MWh) block allocation
  - Only remaining, unallocated funding: \$2.2 million in Block #2 – Long Island Single-Family Residential Incentives
- **Bulk Energy Storage Incentives:**
  - For energy storage projects > 5 MW
  - Incentives vary based on project size and year of interconnection
  - Funding is fully allocated

[www.nyserda.ny.gov/EnergyStorage](http://www.nyserda.ny.gov/EnergyStorage)

# Clean Energy Siting Team

Provides resources, trainings, and one-on-one assistance to communities and local governments.

- **Resources**

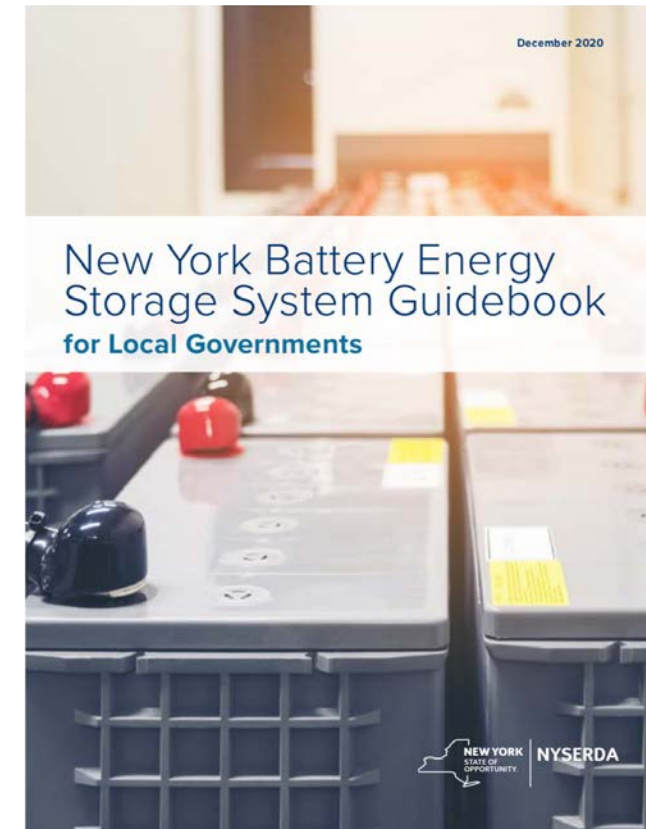
- Storage Guidebook for Local Governments
- Recorded Webinars

- **Training Courses:**

- Overview of the Model Battery Energy Storage System Law
- Battery Energy Storage Systems for First Responders

- **Assistance for AHJs:**

- Email [cleanenergyhelp@nyserderda.ny.gov](mailto:cleanenergyhelp@nyserderda.ny.gov)



[www.nyserderda.ny.gov/Siting](http://www.nyserderda.ny.gov/Siting) & [www.nyserderda.ny.gov/storageguidebook](http://www.nyserderda.ny.gov/storageguidebook)



A long row of white energy storage containers, likely lithium-ion batteries, is shown in an outdoor facility. The containers are arranged in a line on a gravel surface, with a concrete foundation. Each container has a door with a handle and a small panel. The background shows a clear blue sky and some greenery. The text "Energy Storage Systems: Permitting in NYS" is overlaid in the center in a bold blue font.

# Energy Storage Systems: Permitting in NYS

# Permitting Jurisdiction: Solar vs. Storage

## Solar

Permitting process varies based on  
size of the installation:

- **Projects < 25 MW:** Permitted at local level (SEQR, municipal/county requirements)
- **Projects > 25 MW:** Permitted at State level (Article 10, ORES)
- **Projects between 20 – 25 MW:**  
May opt-in to State-level

## Energy Storage

Permitting process varies based on  
whether or not system is paired with generation:

- **Paired with Renewable Generator <25 MW:**  
Permitted at local level (SEQR, municipal/county requirements)
- **Paired with Renewable Generator > 25 MW:**  
Permitted at State level (Article 10, ORES)
- **Standalone System, regardless of size:**  
Permitted at local level (SEQR, municipal/county requirements)

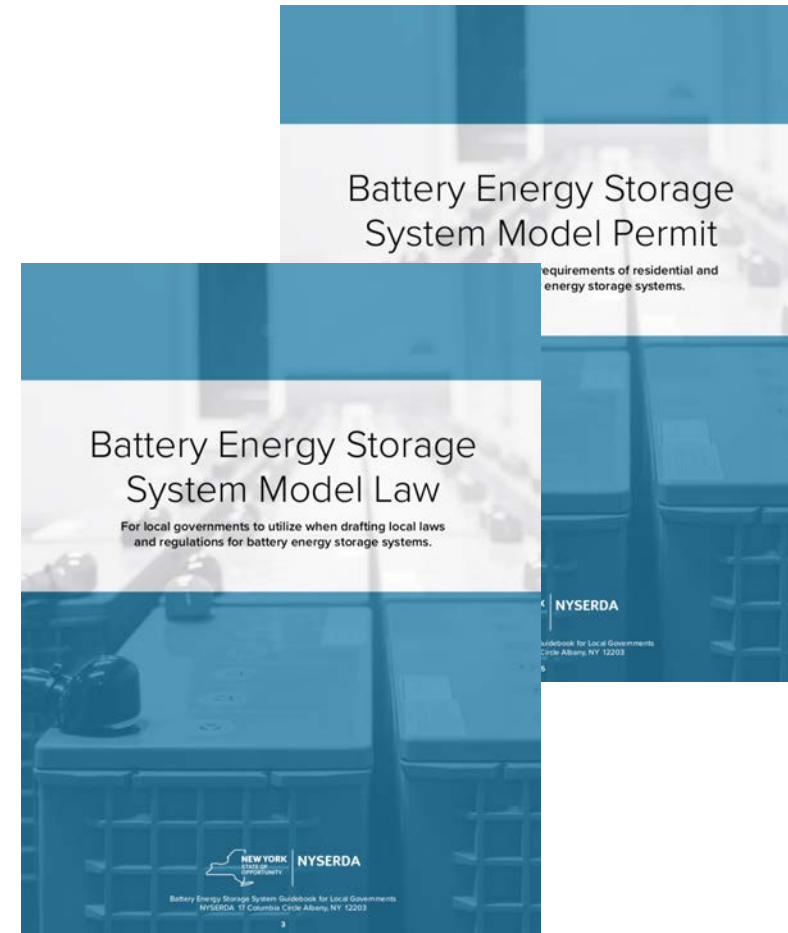
# Permitting at the Local Level

**SEQR:** No separate requirements for energy storage systems

**Local regulations:** As with solar, an increasing number of AHJs are incorporating energy storage requirements into their zoning code.

Many have modified and adopted the NYSERDA Model Law, which:

- Utilizes 2 tiers for regulating systems:  
Tier 1  $\leq$  600 kWh; Tier 2  $>$  600kWh
- Utilizes a streamlined permitting process for Tier 1 (Model Permit), additional review for Tier 2



# NYS Uniform Fire Prevention & Building Code

## Energy Storage in the NYS Uniform Code:

- > **2019:** NYS Uniform Code Council adopts the *2019 Energy Storage System Supplement*
  - > **2020:** 2020 Uniform Code cycle goes into effect; codifies requirements for ESS in multiple codes:
    - 2020 Residential Code
    - 2020 Building Code
    - 2020 Fire Code
- Applicable across NYS without need for local adoption\*

\*Not applicable in NYC, which uses a separate code



# NYS Uniform Code

## 2020 NYS Residential Code

- **Size, Location, and Separation requirements**
  - > 20 kWh per unit
  - > Allowable in attached/detached garages and accessory structures, on exterior walls, within utility closets and storage/utility spaces
  - > Up to 40 or 80 kWh, in aggregate, depending on location of installation(s)
  - > Minimum separation of 3 feet from other units, as well as doors, windows, etc.
- **Fire-Resistance Rating requirements**
  - > For walls/ceilings of rooms and areas containing ESS
- **Protection from Impact**

*\*Certain requirements may be modified by the AHJ based on large-scale fire testing\**



# NYS Uniform Code

## 2020 NYS Fire Code:

- **Hazard Mitigation Analysis**
  - > Required for larger commercial/grid-scale systems (>600 kWh)
  - > Evaluates consequences of ESS failure modes
  - > Approval contingent on demonstration that consequences of ESS failure (fires, toxic or flammable gases) will be contained, controlled, or limited by system protections
- **Large-Scale Fire Testing**
  - > Conducted in accordance with UL 9540A or approved equivalent
  - > Demonstrates that fire will not spread to adjacent systems/areas
  - > Testing results will inform necessary protections and requirements
  - > Required for systems >600 kWh; may also be utilized to seek exception from certain requirements

# NYS Uniform Code

## 2020 NYS Fire Code (cont.):

- **Fire Remediation**

- > ESS owner required to provide a fire remediation team to relieve first responders, notify FD as needed.

- **Peer Review**

- > As required by the AHJ, ESS owner required to retain and fund services of an approved peer reviewer.

- **Commissioning, Decommissioning, Operations & Maintenance Plans:**

- > Operations & Maintenance Manual
  - Provided prior to commencing operation
  - Maintained at onsite location
- > Commissioning and Decommissioning Plans
  - Should account for removal at end-of-life, or in the event of fire or other damage

# NYS Uniform Code

## 2020 NYS Fire Code (cont.):

- **Technology-Specific Requirements**
  - > Establishes safety and mitigation requirements based on risks associated with different ESS technologies

Compliance Required	Battery Technology				Other Energy Storage System and Battery Technologies	Capacitor Energy Storage System
	Lead-acid	Ni-Cad and Ni-MH	Lithium-ion	Flow		
1206.13.1. Exhaust ventilation	Yes	Yes	No	Yes	Yes	Yes
1206.12.2 Spill control and neutralization	Yes <sup>c</sup>	Yes <sup>c</sup>	No	Yes	Yes	Yes
1206.12.3 Explosion control	Yes <sup>a</sup>	Yes <sup>a</sup>	Yes	No	Yes	Yes
1206.12.4 Safety caps	Yes	Yes	No	No	Yes	Yes
1206.12.5 Thermal Runaway	Yes <sup>d</sup>	Yes	Yes <sup>e</sup>	No	Yes <sup>e</sup>	Yes



# NYS Uniform Code

## 2020 NYS Fire Code (cont.):

- Location-Specific Requirements

- > Indoor Installations:

1. Dedicated-Use
2. Non-Dedicated-Use

- > Outdoor

3. Outdoor Near Exposures
4. Outdoor Remote



# NYS Uniform Code

## 2020 NYS Fire Code (cont.):

- Location-Specific Requirements: Indoor Installations

Compliance Required	Dedicated Use Buildings	Non-Dedicated Use Buildings
1206.11 General Installation Requirements	Yes	Yes
1206.12.1 Size and separation	Yes	Yes
1206.12.2 Maximum allowable quantities	No	Yes
1206.12.3 Elevation	Yes	Yes
1206.12.4 Smoke and automatic fire detection <sup>e</sup>	Yes <sup>c</sup>	Yes
1206.12.5 Fire suppression systems	Yes <sup>d</sup>	Yes
1206.14.3 Dwelling units and sleeping units	NA	Yes
1206.14.4 Fire-resistance rated separations	Yes	Yes
1206.13 Technology specific protection	Yes	Yes

# NYS Uniform Code

## 2020 NYS Fire Code (cont.):

- Location-Specific Requirements: Outdoor Installations

Compliance Required	Remote Installations	Installations Near Exposures
1206.11 General Installation Requirements	Yes	Yes
1206.12.1 Size and separation	No	Yes <sup>c</sup>
1206.12.2 Maximum allowable quantities	No	Yes
1206.12.4 Smoke and automatic fire detection	Yes	Yes
1206.12.5 Fire suppression systems	Yes <sup>d</sup>	Yes
1206.12.6 Maximum enclosure size	Yes	Yes
1206.12.7 Vegetation control	Yes	Yes
1206.12.8 Means of egress separation	Yes	Yes
1206.15.3 Clearance to exposures	Yes	Yes
1206.13 Technology specific protection	Yes	Yes

# Stay Engaged!

- **DPS Energy Storage Proceeding (Case 18-E-0130)**  
<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=55960>
- **NYSERDA Storage Mailing List**  
[www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Contact-Us/Email-Updates](http://www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Contact-Us/Email-Updates)
- **Questions for:**
  - NYSERDA Energy Storage Incentive Program: [energystorage@nyserda.ny.gov](mailto:energystorage@nyserda.ny.gov)
  - NYSERDA Clean Energy Siting Team: [cleanenergyhelp@nyserda.ny.gov](mailto:cleanenergyhelp@nyserda.ny.gov)