2025 Bulk Energy Storage Solicitation:

Host Communities Webinar

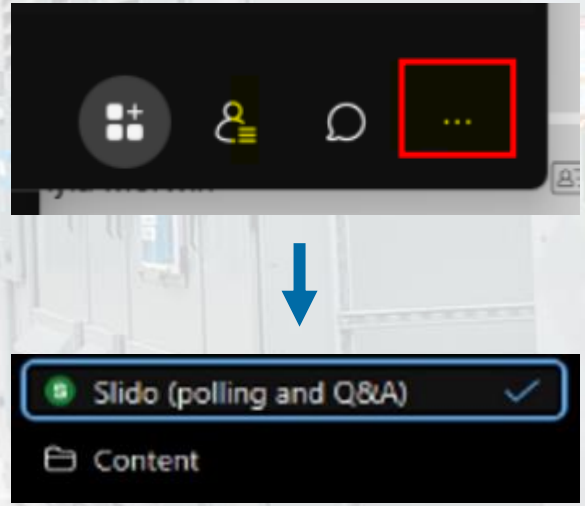
NEW YORK STATE OF OPPORTUNITY. | NYSERDA

Stillwater, NY

GETTING STARTED

Participation for Attendees:

- Today's program **is being recorded**
- Attendees are **muted and camera-off** upon entry
- Questions may be submitted in writing through the **Slido Q&A feature** at any time during today's event
  - Click the three dots in the lower right corner and select the Slido option to open the feature



Materials from today's program will be posted to www.nyserda.ny.gov/iscrfp

If technical problems arise, please contact John.Necroto@nyserda.ny.gov

2025 Bulk Energy Storage Solicitation: Host Communities Webinar

Agenda

- Introduction to Energy Storage
- 2025 Bulk Energy Storage Solicitation
- Planning & Zoning for Energy Storage
- Fire Safety Considerations
- Resources for Local Governments
- Q&A

NYSERDA Presenters

- Clean Energy Siting Team
- Large-Scale Resources Team
- Bulk Energy Storage Team

Introduction to Energy Storage

Cicero, NY

Introduction to Energy Storage

Drivers & Technologies

Why are we talking about energy storage?

Driving electric grid questions/concepts:

- Do we have enough (+ *when we need it*)?
  → '**Resource Adequacy**'

- Can the grid withstand strain / challenges?
  → '**Reliability' / 'Resilience'**

- Can we avoid/minimize/manage costs of grid operations, maintenance?
  → '**Affordability**'

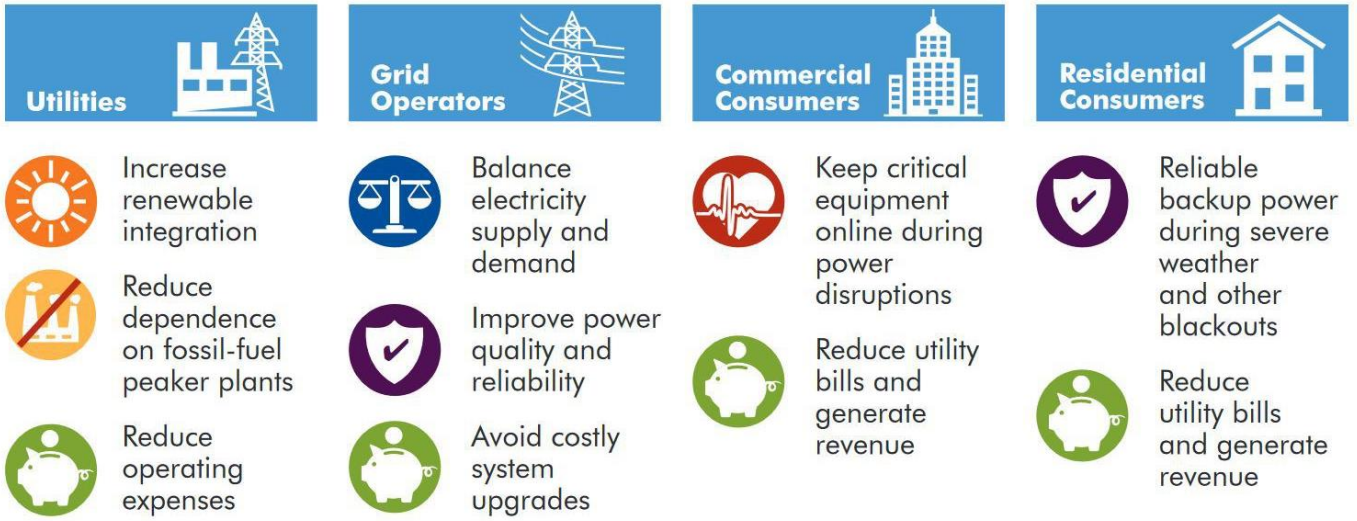
Introduction to Energy Storage

Drivers & Technologies

Why are we talking about energy storage?

Energy storage can help address these questions across ‘sectors’ of the grid:

- Residential customers
- Businesses/commercial customers
- Electric service utilities (e.g. National Grid)
- Grid operators (NYISO)



Introduction to Energy Storage
Drivers & Technologies

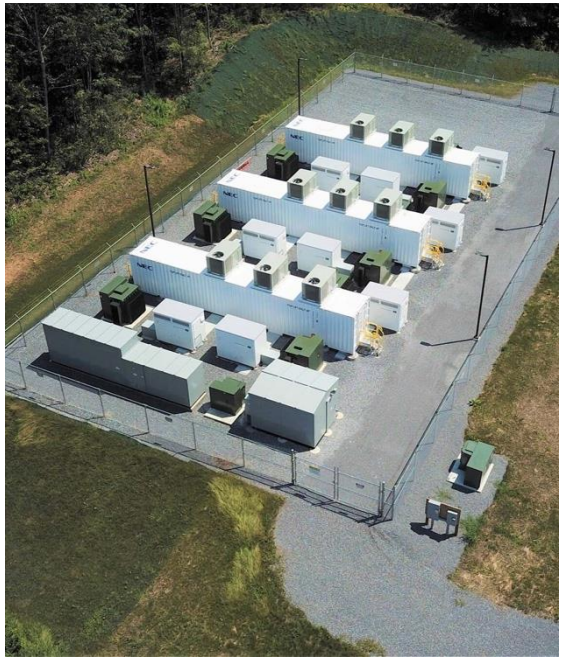
Energy storage can help address these questions across ‘sectors’ of the grid:

Residential
“Behind the Meter”
~5-10 kW

On-Site Retail
“Behind the Meter”
~50-750 kW

Off-Site Retail
“Front of the Meter”
~1-5 MW

Bulk
“Front of the Meter”
~20+ MW



Residential & Retail Program

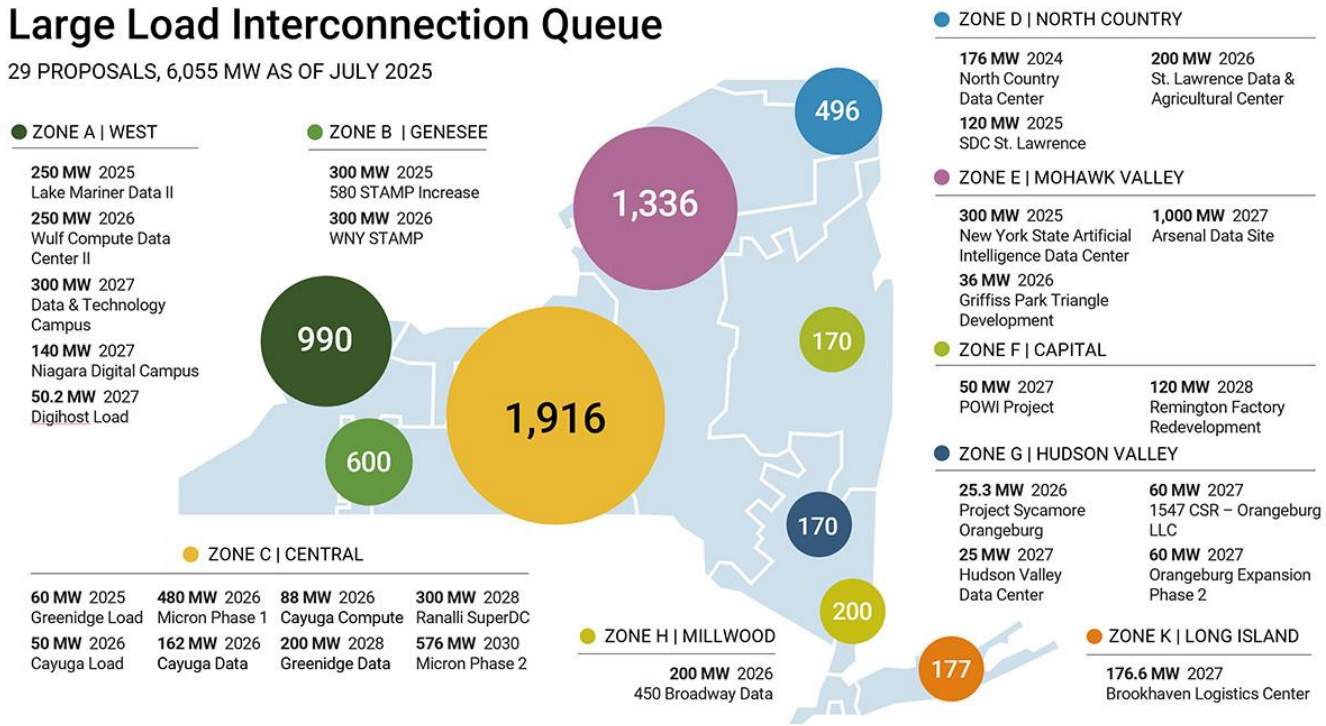
Bulk Program

Introduction to Energy Storage

Drivers & Technologies

Why are we talking about energy storage?

- Load growth! (Manufacturing, economic development projects, data centers, electrification, etc.)



Source: NYISO, August 2025

Introduction to Energy Storage

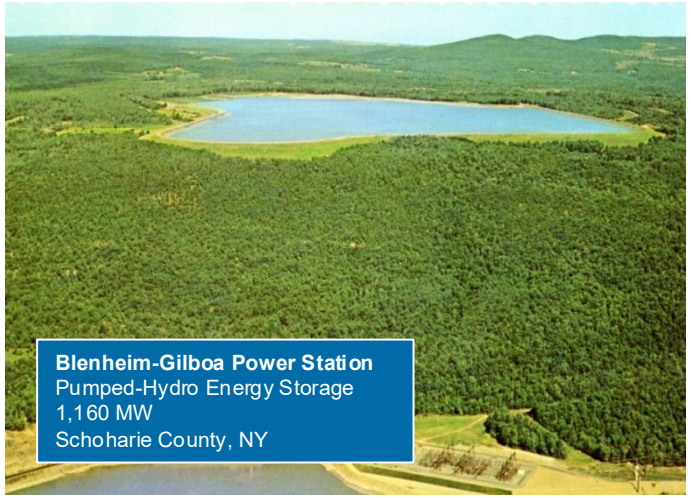
Drivers & **Technologies**

- We want **electrical energy**
- Energy Storage = Technology which stores and/or converts one form of energy to another usable form
  (in this case, electrical energy)
- Examples of energy storage technologies:
  - Chemical
  - Mechanical
  - Thermal

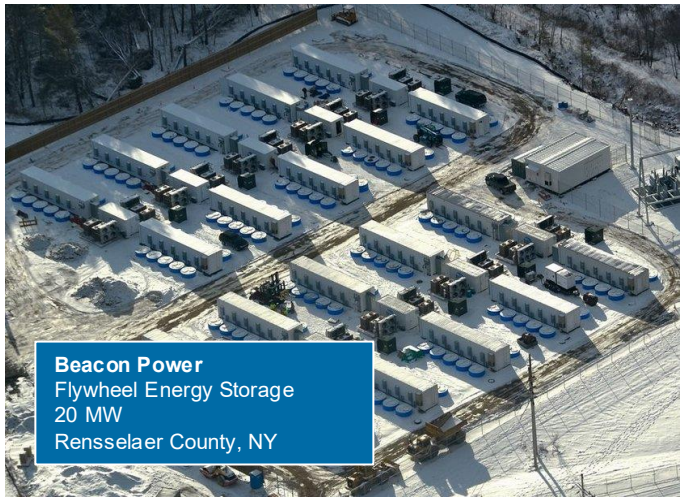
Introduction to Energy Storage

Drivers & Technologies

NOT Hypothetical - Energy Storage Technologies Exist in NYS:



Blenheim-Gilboa Power Station
Pumped-Hydro Energy Storage
1,160 MW
Schoharie County, NY



Beacon Power
Flywheel Energy Storage
20 MW
Rensselaer County, NY

KCE NY 1
Battery Energy Storage
20 MW
Saratoga County, NY

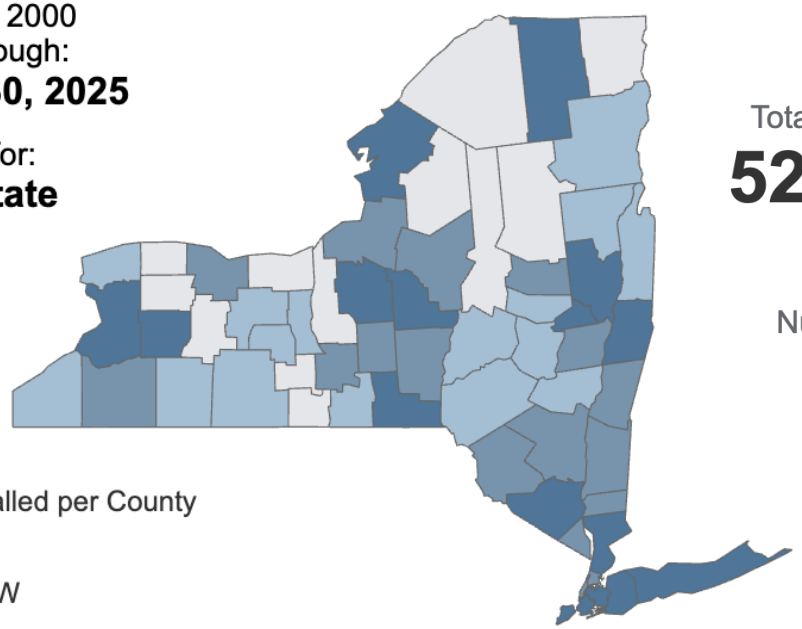
Introduction to Energy Storage

Drivers & Technologies

NOT Hypothetical - Energy Storage Technologies Exist in NYS:

Data beginning 2000
and current through:
November 30, 2025

Showing Data for:
New York State



Megawatts installed per County
- 0 kW
- >0 to 100 kW
- >100 to 1000 kW
- >1 MW to 10 MW
- >10 MW

Total Capacity (MW AC)
523.99 MW

Number of Projects
7,311

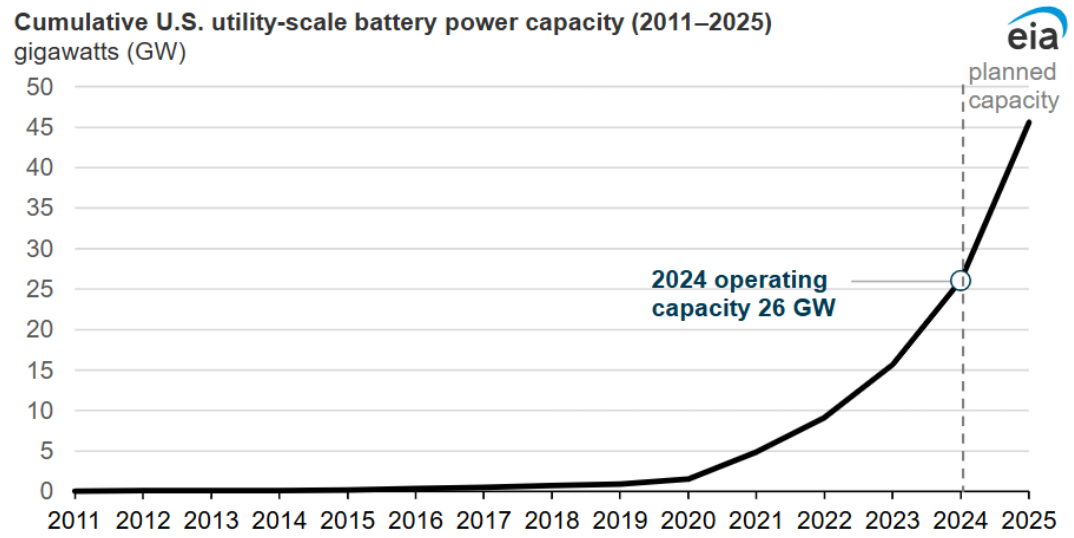
Introduction to Energy Storage

Drivers & Technologies

Majority of energy storage being deployed today is battery energy storage, due to:

- Technology maturity
- Falling costs
- Siting considerations
- System efficiency
- Energy density
- Scalability

U.S. battery capacity increased 66% in 2024



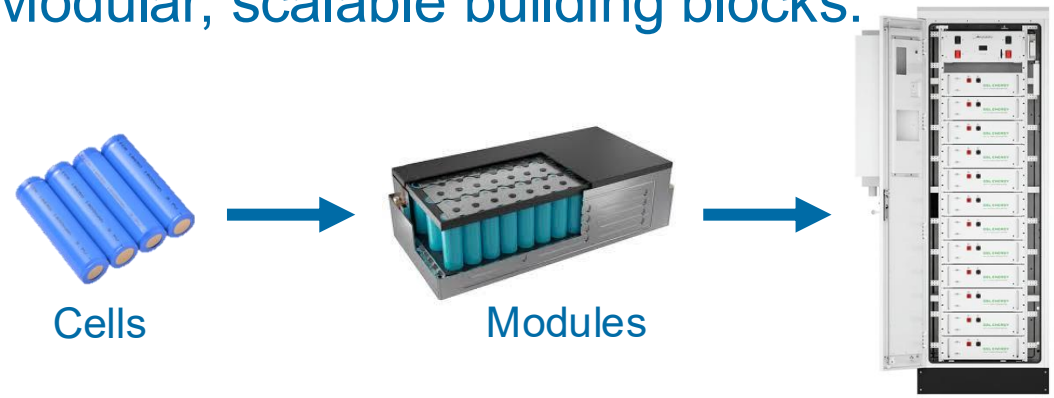
Data source: U.S. Energy Information Administration, Preliminary Monthly Electric Generator Inventory, January 2025

Introduction to Energy Storage

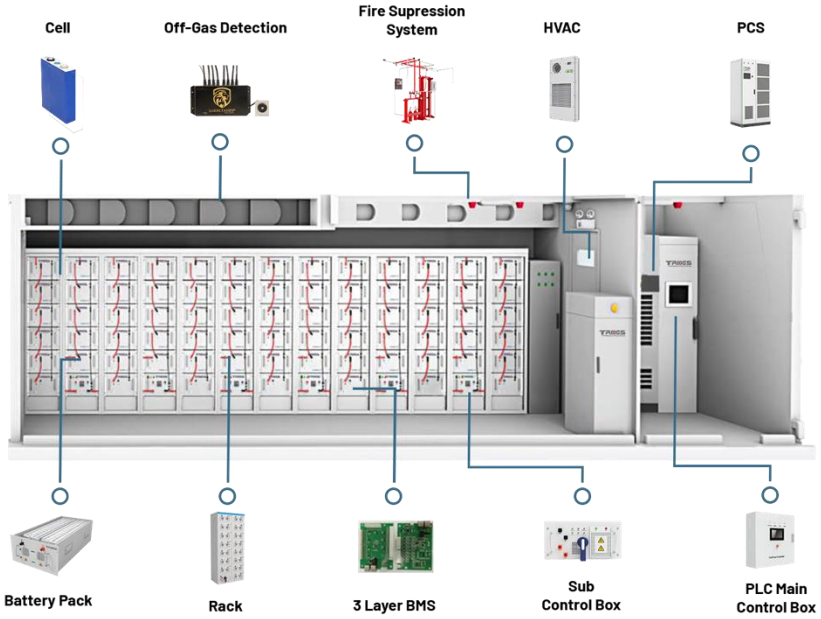
Drivers & **Technologies**

Battery Energy Storage Systems (BESS):

- Modular, scalable building blocks:



- Battery management system (BMS)
- Balance of system (BOS) equipment



Introduction to Energy Storage

Drivers & Technologies

BESS continue to evolve to address numerous variables, including:

- Safety
- Costs
- Energy density
- Duration
- Physical footprint
- Material availability / recoverability

NYS as a leader in battery innovation:

New Energy New York (NENY) Coalition, led by Binghamton University, is one of 10 Regional Innovation Engines funded by the National Science Foundation.

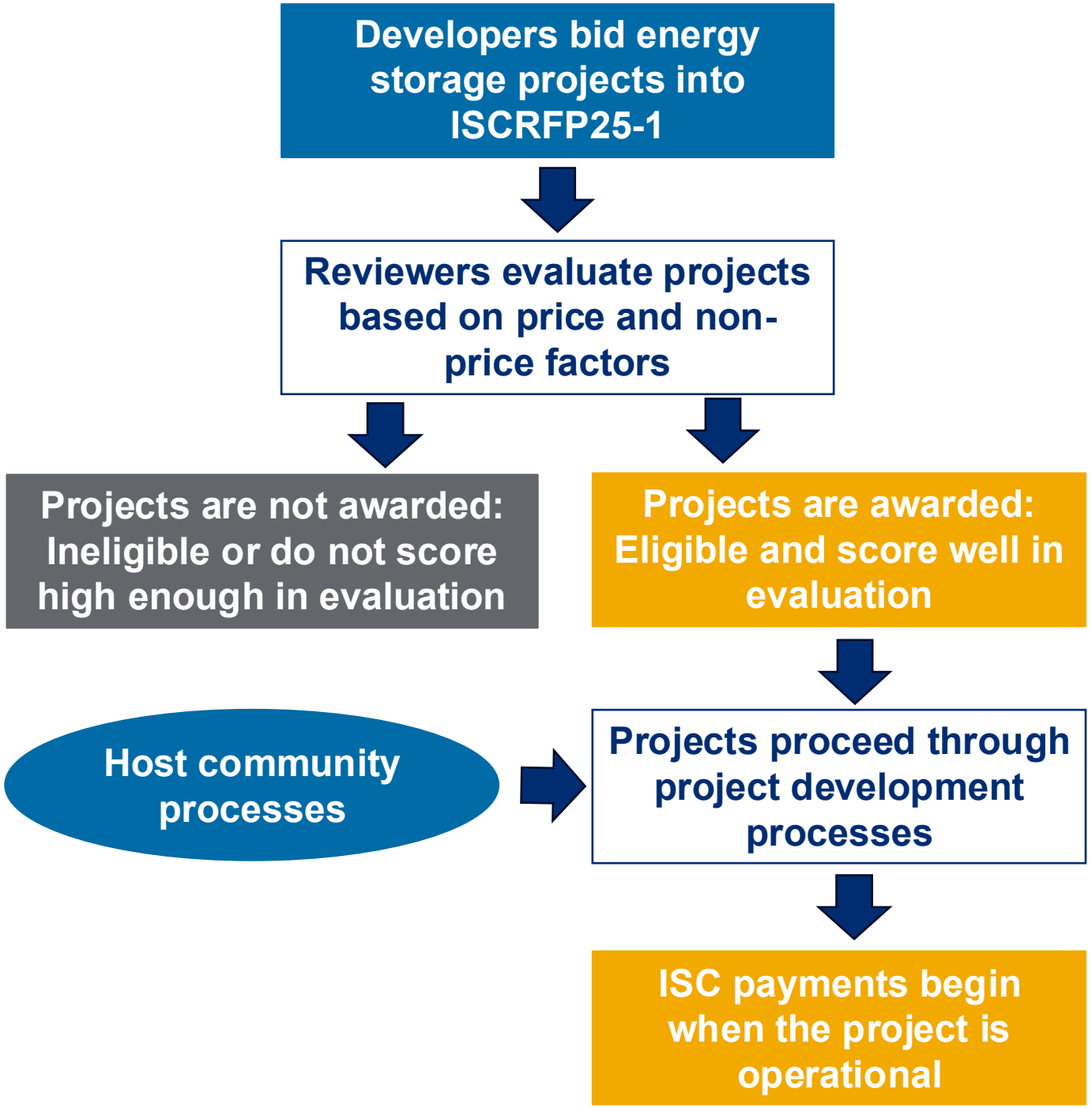
Binghamton, NY

2025 Bulk Energy Storage Solicitation (ISCRFP25-1): Overview, Process, and Timeline

What are ISCs?

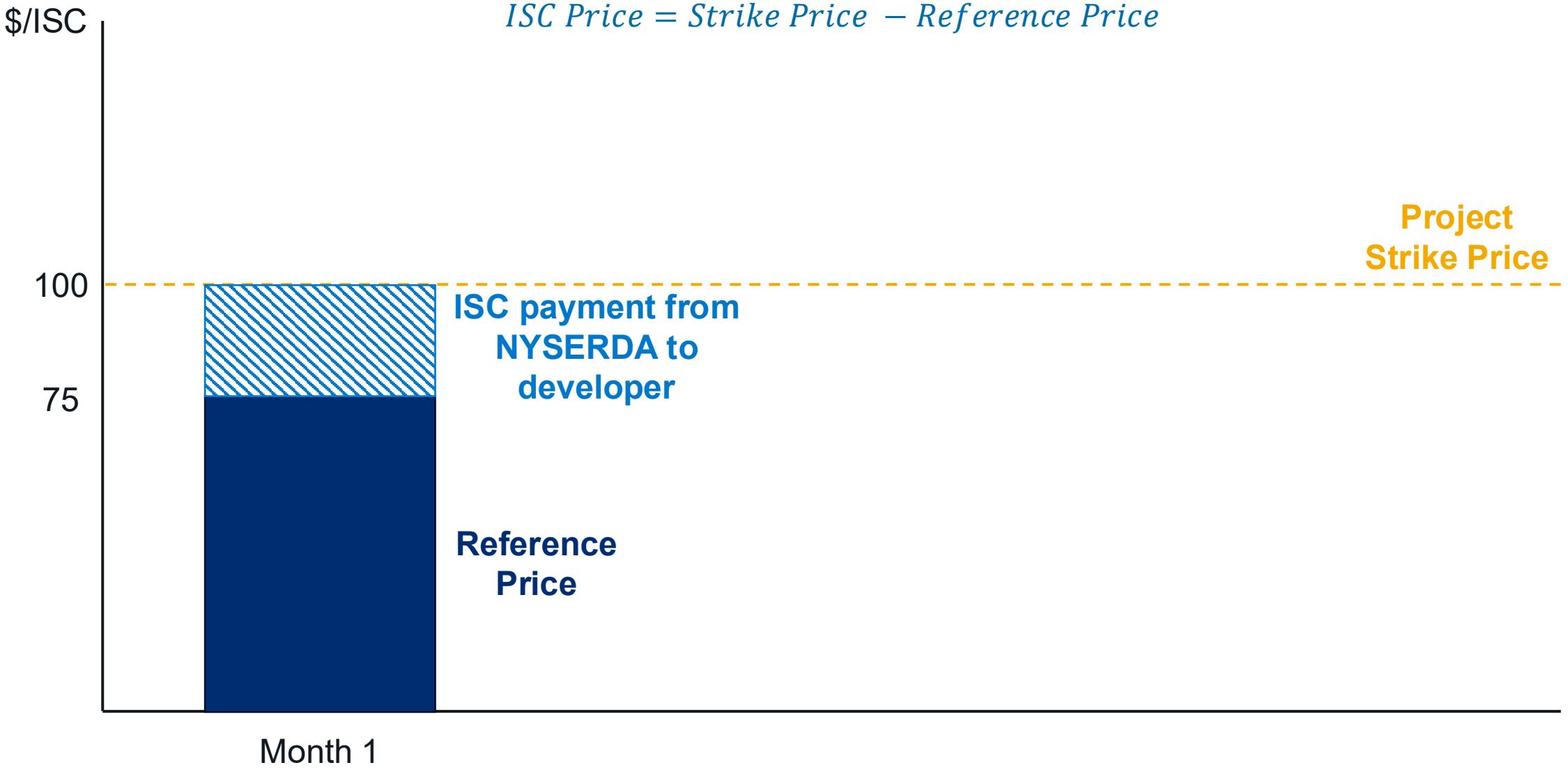
Index Storage Credits (ISCs) are a market-based mechanism to provide project owners with greater revenue certainty.

1 ISC = 1 MWh of discharge capability per day.



How are ISC Payments Made?

$$ISC\ Price = Strike\ Price - Reference\ Price$$



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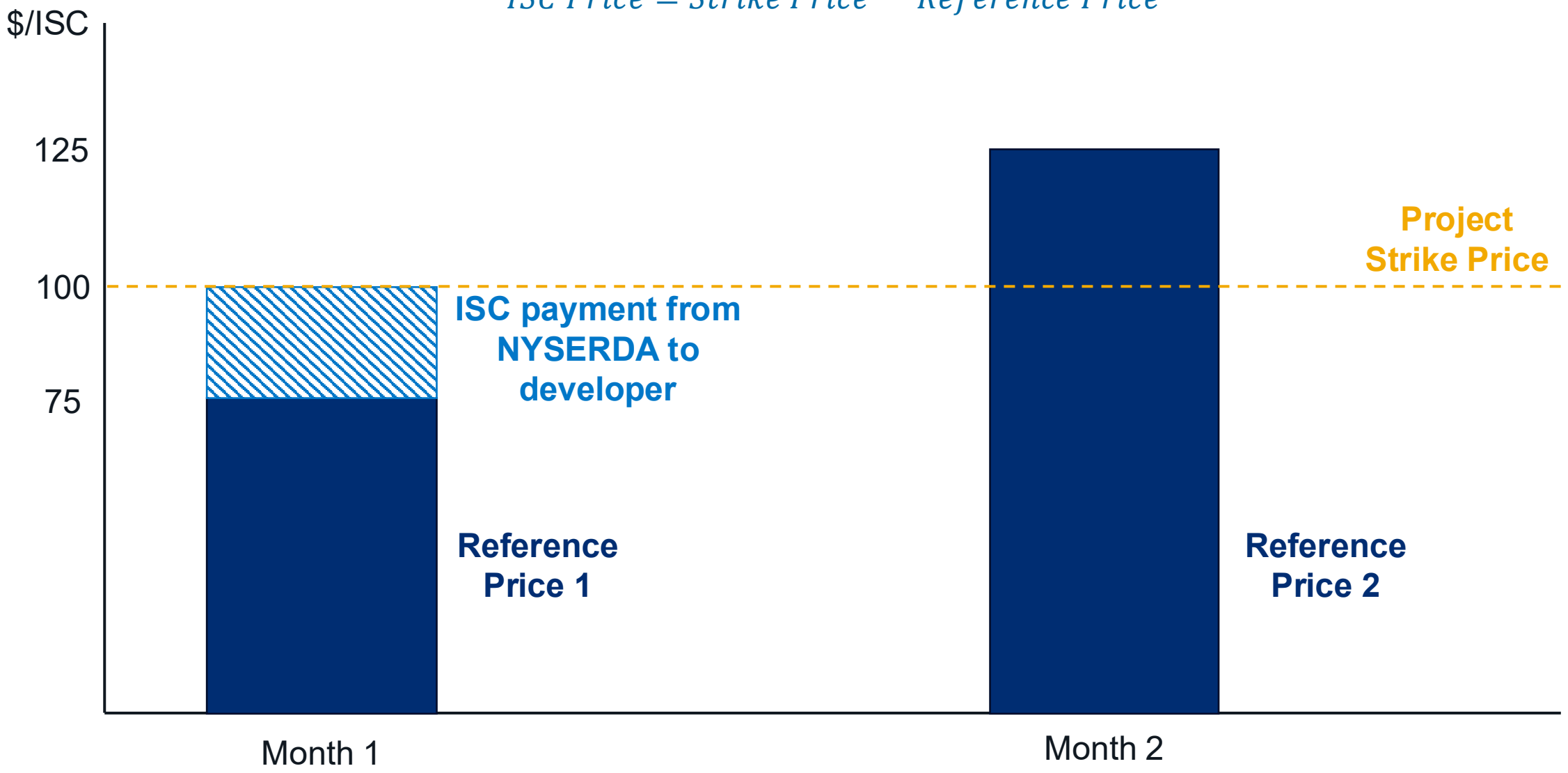

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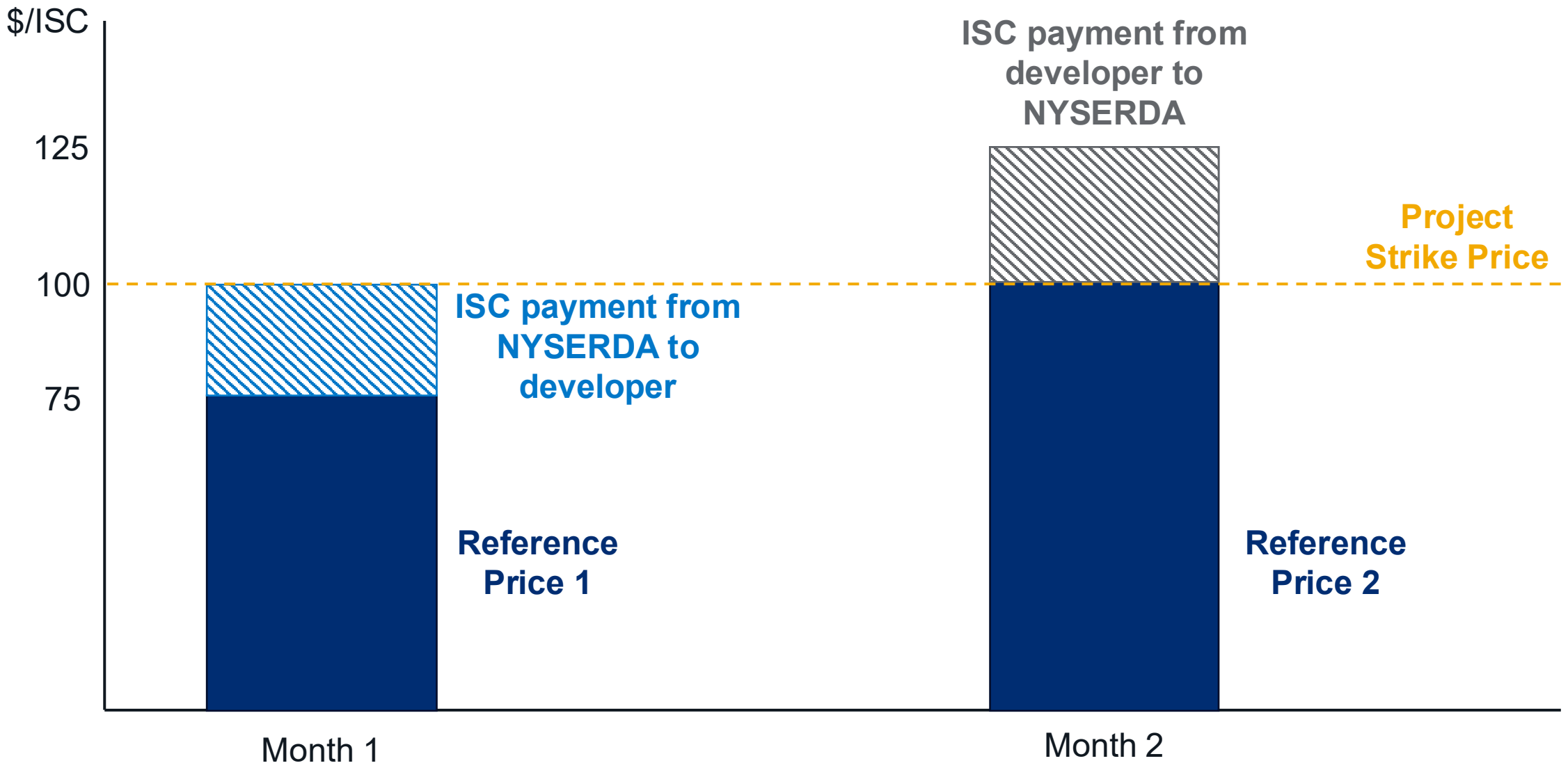


How does NYSERDA decide which projects receive ISCs?

Project Eligibility & Evaluation

To participate in ISCRFP25-1, projects must

- Be electrically interconnected to the NY grid
- Have at least 5 MW of power capacity
- Use commercialized energy storage technologies
- Be placed in-service by December 31, 2030

Projects are evaluated by a committee on the following factors:

- Price (60%)
- Non-Price (40%)
  - Project Viability and Maturity
  - Electricity System Value
  - Economic Benefits to NYS

ISCRFP25-1 is the result of years of public planning.

NYSERDA is authorized to release one annual ISCRFP for the next two years.

If an ISCRFP25-1 project is proposed in your community, project-specific information will be available here →

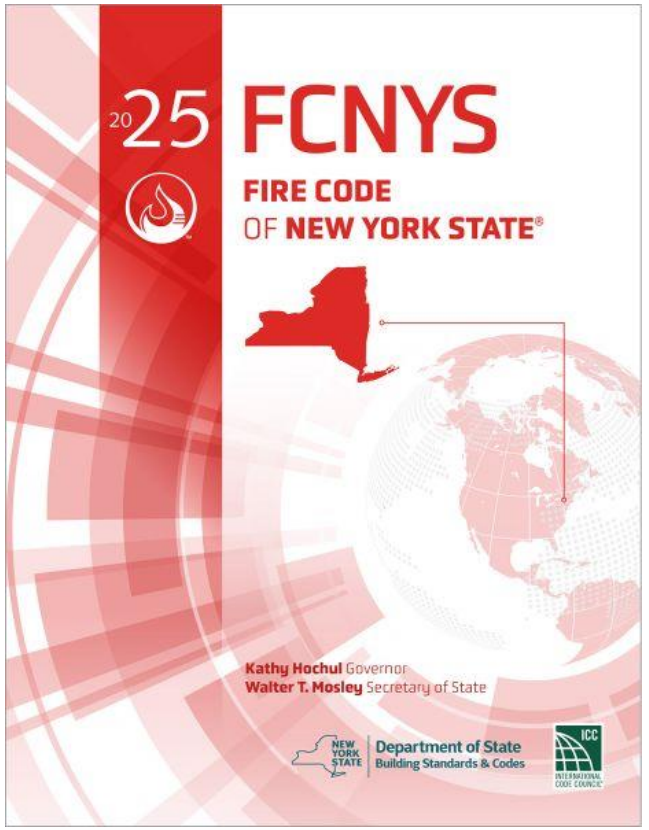
NY establishes first energy storage goals	June 21, 2018
NY doubles its energy storage goals	December 28, 2022
PSC directs NYSERDA to conduct bulk storage procurements	June 20, 2024
Bulk Energy Storage Implementation Plan opens for public comment	October 18, 2024
Final Implementation Plan is adopted	April 18, 2025
Draft ISCRFP25-1 opens for public comment	May 13, 2025
ISCRFP25-1 opens for eligibility applications	July 28, 2025
ISCRFP25-1 non-price bid proposals are due	December 11, 2025
ISCRFP25-1 price bid proposals are due	**January 29, 2026**
Bid proposal information is made public on NYSERDA's bulk storage website	**After prices are received, prior to award**
NYSERDA notifies proposers of provisional awards	**Q1 2026**
NYSERDA seeks public comment on and issues ISCRFP26-1	**2026**
NYSERDA seeks public comment on and issues ISCRFP27-1	**2027**
In-service requirement for all bulk storage projects receiving ISCs	**December 31, 2030**

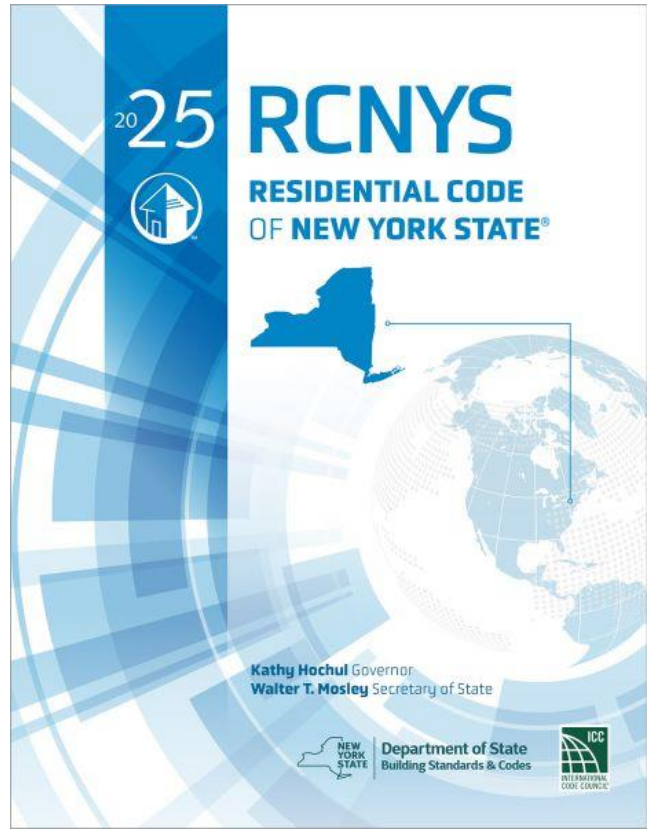
Planning & Zoning for Energy Storage

Greenburgh, NY

Planning & Zoning for Energy Storage

Each of your communities already has robust, enforceable regulations in place to ensure safety of BESS installations:





More on that to come!

Planning & Zoning for Energy Storage

Why should local governments proactively consider / plan for energy storage?

- Variety of use cases

20 kWh, residential

940 kWh, commercial

1.85 MWh, DER

45.6 MWh, Bulk

Planning & Zoning for Energy Storage

What do each of those use cases / installations have in common?

They are subject to **local permitting authority**.

Technology Type		**State Permitting** (ORES*)	**Local Permitting** (SEQR/local regulations)
Renewable Generator (e.g. solar, wind)		**≥ 25 MW***	**< 25 MW**
Battery Energy Storage System (BESS)	Co-located with Renewable Generator	All sizes if co-located with **≥ 25 MW** renewable generator	All sizes if co-located with **< 25 MW** renewable generator
	Standalone System	*N/A*	**All sizes***

**Under Public Service Law (PSL) §68, electric corporations are required to seek a Certificate of Public Convenience and Necessity (CPCN) for alternate energy production facilities – including renewables and energy storage systems – exceeding 80 MW.*

Planning & Zoning for Energy Storage

Why should local governments proactively consider / plan for energy storage?

- Variety of use cases
- Local permitting authority
- Balancing constituent / shared benefits with impacts
- Moving *beyond* moratoria

Planning & Zoning for Energy Storage

Land Use & Planning Considerations for Clean Energy Technologies:

- Electrical infrastructure (proximity, capacity)
- Appropriate locations (zoning)
- Bulk and area standards
- Environmental impacts
- Visual impacts
- Agricultural impacts
- Decommissioning
- Taxation

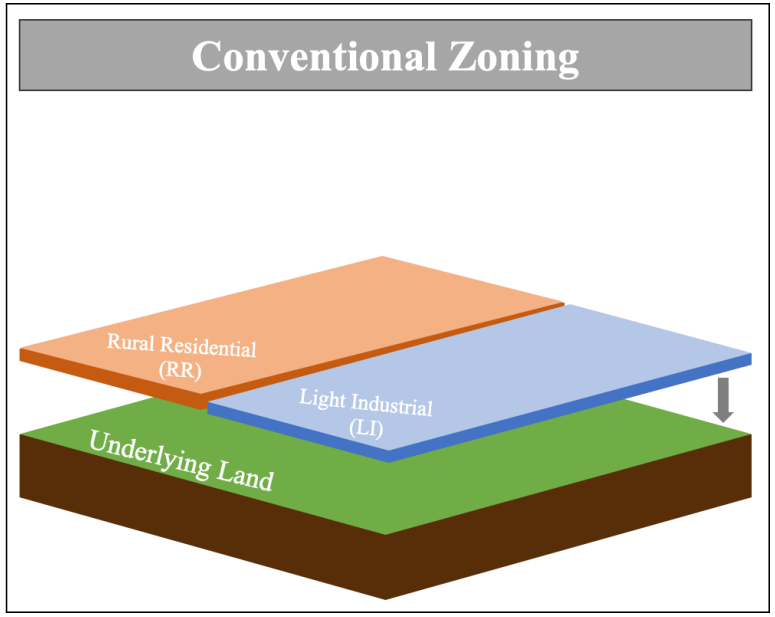
Planning & Zoning for Energy Storage

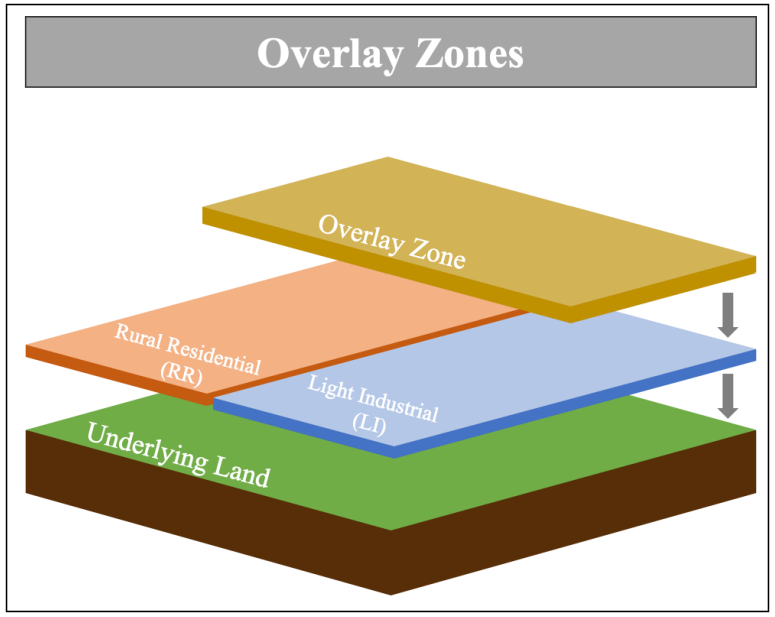
Land Use & Planning Considerations for Battery Energy Storage Systems:

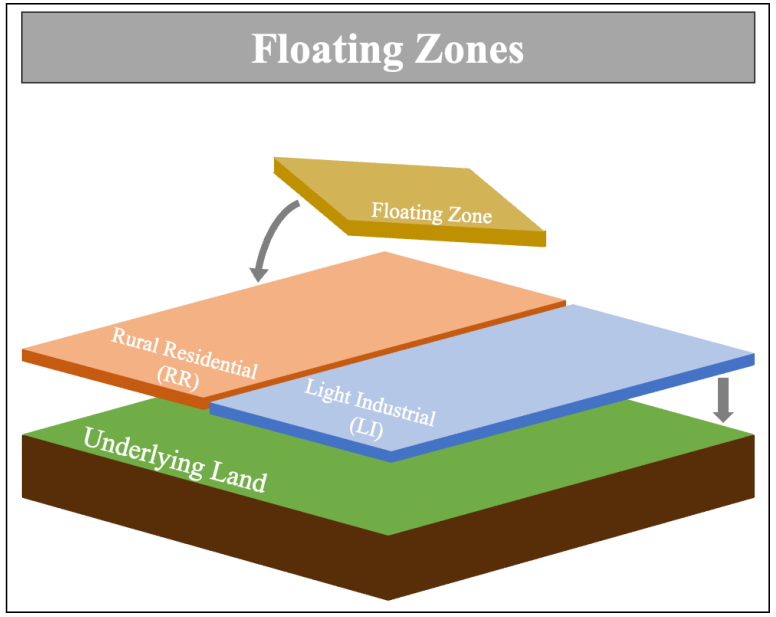
- Electrical infrastructure (proximity, capacity)
- Appropriate locations (zoning)
- Bulk and area standards
- Environmental impacts
- Visual impacts
- Agricultural impacts
- Decommissioning
- Taxation
- **Fire safety**
- **Incident management training**

Planning & Zoning for Energy Storage

Choosing a regulatory tool for BESS:







Planning & Zoning for Energy Storage

Establish Definitions to Enable Appropriate Zoning:

Tier 1

Tier 1 BESS have an aggregate energy capacity **less than or equal to 600kWh** and, if in a room or enclosed area, consist of only a single energy storage system technology.

Tier 2

Tier 2 BESS have an aggregate energy capacity **greater than 600kWh** or are comprised of more than one storage battery technology in a room or enclosed area.

Planning & Zoning for Energy Storage

Establish Definitions to Enable Appropriate Zoning:

Tier 1

Tier 2

Planning & Zoning for Energy Storage

Establish Definitions to Enable Appropriate Zoning:

RECOMMENDATIONS:

- Learn about the NYS Fire Code requirements, already in place in your community; avoid duplication/conflict.

- If exploring alternate structures/definitions, base them on well-considered, legitimate source(s)

- Consider and account for the reality of system benefits:
  - *On-site* customer-serving?
  - *Remote* customer-serving?
  - Grid-serving?

Planning & Zoning for Energy Storage

Establish Thorough and Reasonable Permitting Requirements:

Section 6: Tier 1 Battery Energy Storage Systems	• Battery Energy Storage System Permit • Inspection Checklist • Applicable fire code
Section 7: Tier 2 Battery Energy Storage Systems	• Special Use Permit • Site Plan Review • Applicable fire code

Planning & Zoning for Energy Storage

Establish Thorough and Reasonable Permitting Requirements:

For larger systems, this includes:

- Decommissioning planning (incl. consideration of funds)
- Public hearing process
- Enforcing compliance / avoiding duplication, conflict with **existing NYS Fire Code requirements**

Fire Safety Considerations:
Codes, Standards, and Peer Review

Pulaski, NY

NYS INTER-AGENCY FIRE SAFETY WORKING GROUP

In July 2023, in response to fires in **Warwick, Chaumont, and East Hampton**, Governor Hochul convened an Inter-Agency Fire Safety Working Group (Working Group).

Agency Participants

- Division of Homeland Security and Emergency Services (DHSES)
- Office of Fire Prevention and Control (OFPC)
- New York State Energy Research and Development Authority (NYSERDA)
- Department of Environmental Conservation (DEC)
- Department of Public Service (DPS)
- Department of State (DOS)

Working Group Partners

Highly specialized Subject Matter Experts (SME), National Labs, Long Island Power Authority, and New York Power Authority.

Tasks include:

- Collect and assess air/soil/water testing data, review emergency response actions and data, and examine Root Cause Analyses.
- Review existing codes, standards, and regulations, and develop recommendations for revisions/enhancements.
- Field inspections of in-service BESS fleet.

FIRE CODE RECOMMENDATIONS APPROVED BY THE CODE COUNCIL

Proposed Draft Fire Code Updates

1. **Require independent peer reviews for all projects**
2. Expand the requirement for explosion control to include BESS cabinets
3. Require qualified personnel are available for dispatch within 15 minutes and able to arrive on scene within four hours
4. Extend safety signage requirements beyond BESS unit itself: perimeter fences / security barriers and include a map of site, BESS enclosures, and associated equipment
5. **Ensure that Battery Management System (BMS) data is monitored by 24/7 staffed Network Operations Center (NOC). Critical failure notifications should be immediately communicated.**
6. Incorporate requirements for closed-circuit television (CCTV) systems, for continuous monitoring and a post-event analysis
7. Remove the Fire Code exemption for BESS projects owned or operated by electrical utilities to ensure that all projects comply with the Fire Code

Proposed Fire Code Additions

1. Fire Code mandating special inspections for BESS installations to ensure thorough safety and compliance
2. Include “cabinets” in all Fire Code requirements that pertain to rooms, areas, or walk-in units, except for fire suppression requirements, as they may be inappropriate for cabinets
3. Require monitoring of fire detection systems by a central station service alarm system to ensure timely, proper notification to the local fire department
4. **Include requirement for an Emergency Response Plan (ERP) and annual local first responder training**

NYSERDA PEER REVIEW LAUNCH

THE PROBLEM WE FACED

Local AHJs need better support to properly review energy storage projects

WHAT WE ARE DOING ABOUT IT

Peer reviews are thorough design reviews to ensure code compliance and they are now a **requirement for all NYSERDA-funded projects**

- Three nationally renowned expert firms are contracted to conduct peer reviews on behalf of NYSERDA.
  - **Camelot Energy Group** – Seasoned renewable industry engineering professionals with deep energy storage experience
  - **DNV** – Energy storage fire safety experts who perform peer reviews on behalf of NYC Dept. of Buildings and others
  - **ESRG** – Energy storage fire safety experts consisting of former first responders and engineers

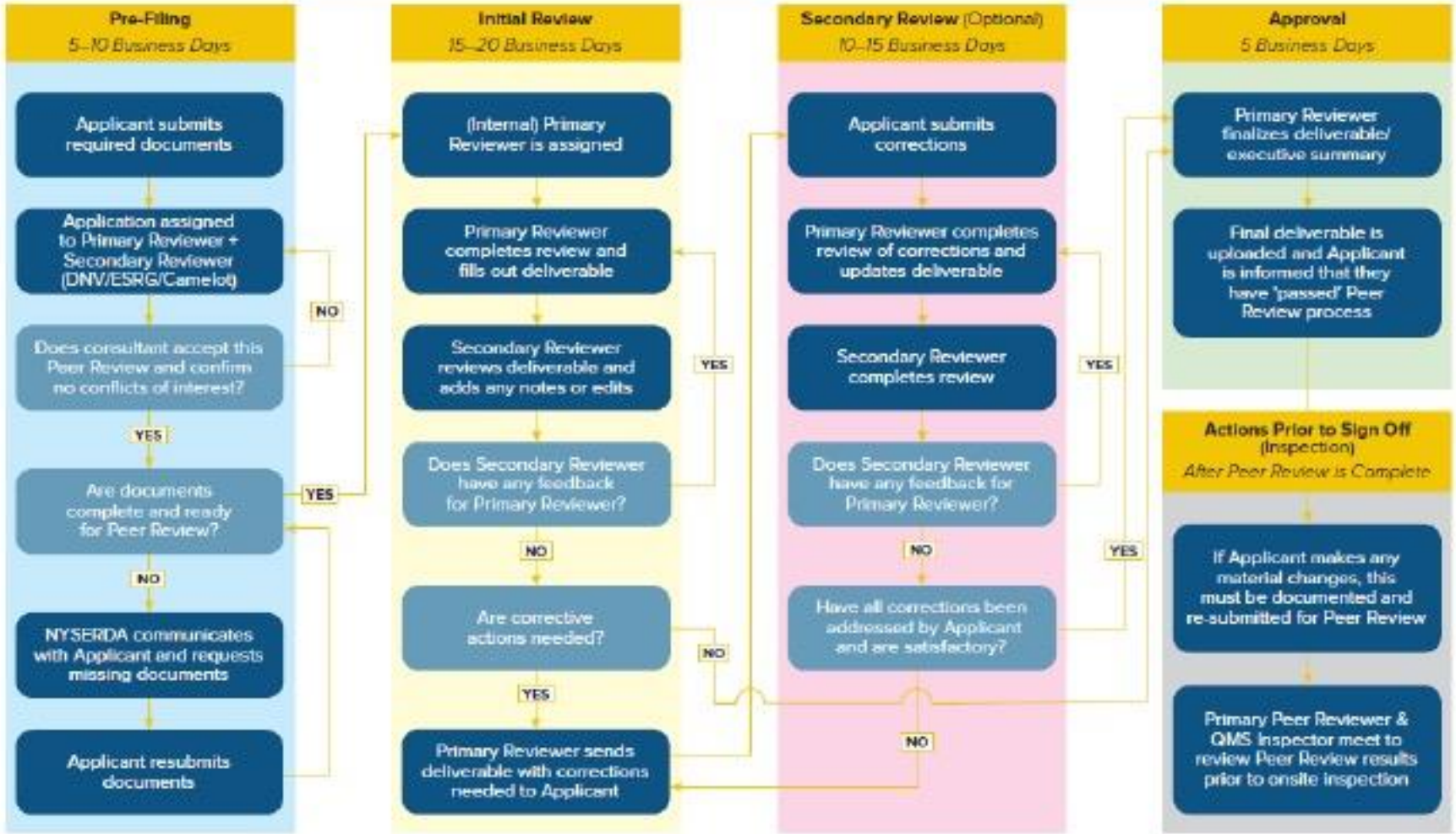
PROCESS AND RESULT

- Peer reviewers looking for compliance with FCNYS, NEC, and other applicable standards.
- Peer reviewers will work on project plans with applicant until approved and then produce a report and approval letter for applicant to pass on to the local government.

Peer Review Process Map

For Energy Storage Developers

NEW YORK STATE | NYSERDA
New York State Energy Research and Development Authority



These example timelines are based on a mature system design and assume minimal response or revision cycles. Actual timelines may differ. We recommend that proposers plan for at least 45-60 business days to complete this process

National Standards for BESS

UL 9540

- **All systems listed in accordance with UL 9540 "Standard for Energy Storage Systems and Equipment."**
  - This is an equipment listing, not a field verification/test method
  - Products that received UL 9540 equipment listing in mid-2020 or later have undergone UL 9540A testing

- **UL 9540 Standard certifies that all components of the system work safely in harmony together.**

UL 9540-A

- **What is UL 9540A?**
  - A performance test method to evaluate fire characteristics of a BESS that undergoes thermal runway
  - Data can inform product design, installation parameters, code official decisions
  - It is required by the NYS Fire Code (600kWh or greater)
  - May be used for fire code official to approve exceptions to certain requirements

National Standards for BESS

Applicable Codes & Standards:

- **UL 9540:** "Standard for Energy Storage Systems and Equipment" certifies that all components of the system work safely in harmony together
- **UL 1741:** Inverters for utility interactive systems listed for use with distributed energy resources
- **UL 9540A:** Test method to evaluate system safety pertaining to thermal runaway

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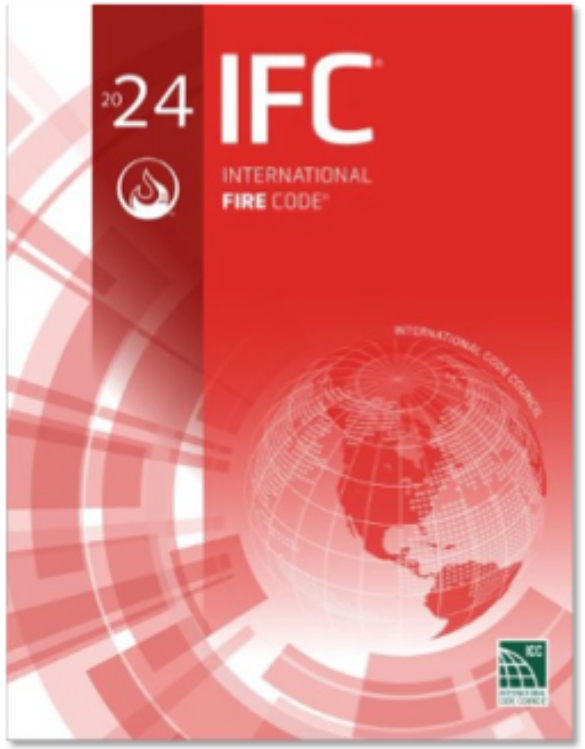
- **International Fire Code** (IFC) Chapter 1207, Energy Storage Systems
  - This is the basis for 2020 FCNYS section 1206 and section 1207 of the 2025 FCNYS

- **NFPA 12** – Standard on CO_2 Extinguishing Systems
- **NFPA 13** – Standard for the Installation of Sprinkler Systems
- **NFPA 15** – Standard for Water Spray Fixed Systems for Fire Protection
- **NFPA 68** – Standard on Explosion Protection by Deflagration Venting
- **NFPA 69** – Standard on Explosion Prevention Systems
- **NFPA 70** – National Electric Code (NEC)
- **NFPA 72** – National Fire Alarm and Signaling Code
- **NFPA 750** – Standard on Water Mist Fire Protection Systems
- **NFPA 855** – Standard for the Installation of Stationary Energy Storage Systems*
- **NFPA 1142** – Standard on Water Supplies for Suburban and Rural Firefighting
- **NFPA 2001** – Standard on Clean Agent Fire Extinguishing Systems
- **NFPA 2010** – Standard for Fixed Aerosol Fire-Extinguishing Systems



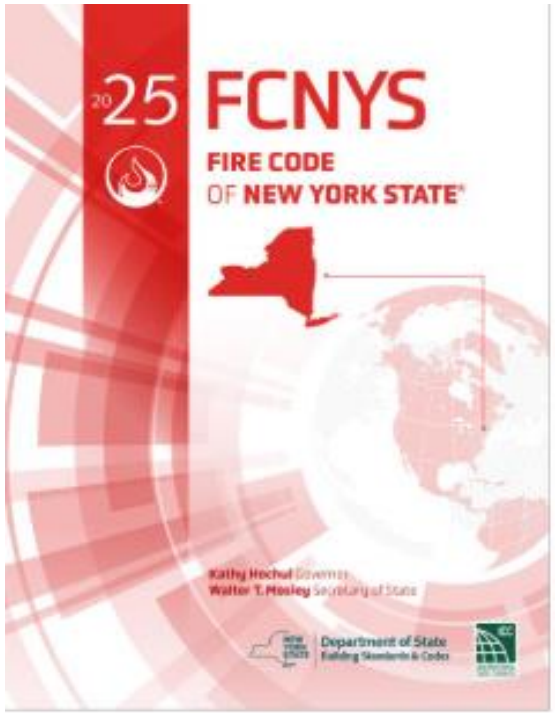
NYS Uniform Code

Energy Storage in the NYS Uniform Fire Prevention and Building Code (Uniform Code):

- **May 2020**: 2020 Uniform Code cycle goes into effect; codifies requirements for BESS in multiple codes.

- **July 2025**: NYS Code Council adopts the 2025 Uniform Code, codifying recommendations from the Fire Safety Working Group.

  The 2024 IFC is the basis of the 2025 Fire Code of New York State, which is in full effect circa Jan 1, 2026.



NYS Uniform Code

Energy Storage in the NYS Uniform Fire Prevention and Building Code (Uniform Code):

Key takeaways:

- Requires **application peer reviews**, to ensure subject matter experts are involved in all approvals
- Requires project-specific **Emergency Response Plans** to be developed in conjunction with local fire department
- Requires project owners to **provide annual on-site trainings**, **Plan reviews**
- Requires project owner to furnish **Hazard Support Personnel** to support and collaborate with local first responders

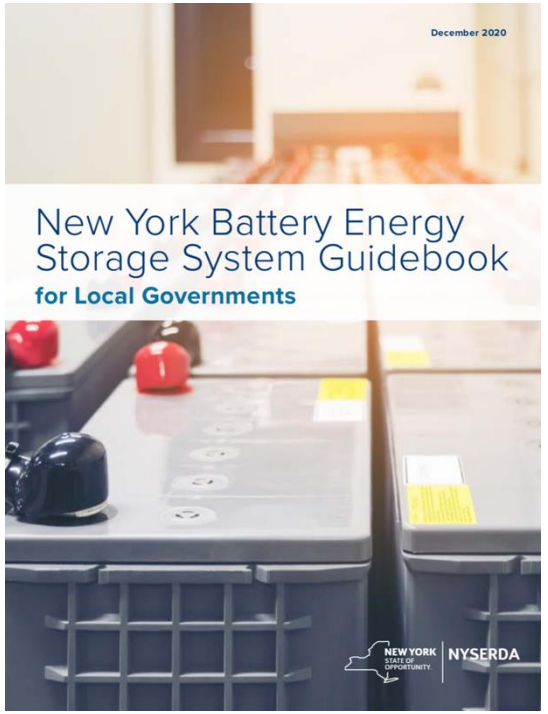
Resources for Local Governments

Blasdell, NY

Resources for Local Governments

NYSERDA Clean Energy Siting Team:

- **Clean Energy Guidebooks for Local Governments**, incl. BESS Guidebook
- Hands-on **education & training opportunities**
- **Technical assistance and local laws** review/ drafting support
- **Pre-recorded trainings** (e.g. '*Deploying Safe Lithium-Ion Energy Storage in Your Community*' webinar)
- Support from regional **Clean Energy Advisors** and technical contractor resources



Resources for Local Governments

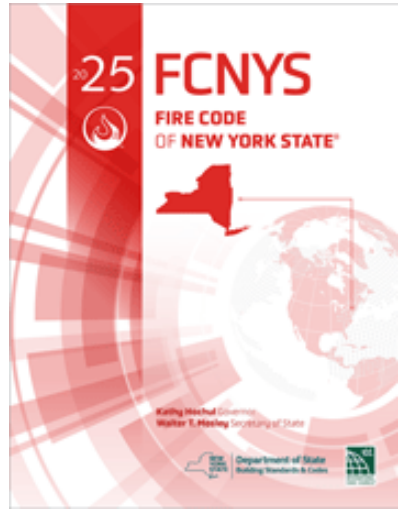
NYSERDA Clean Energy Siting Team:

NYS Inter-Agency Fire Safety Working Group:

- Inter-Agency Fire Safety Working Group Site (created December 2023)
- Data Collection Press Release (December 2023)
- Code Recommendations Document (July 2024)

NYS State Fire Prevention and Building Code Council:

- New York 2025 Code Books

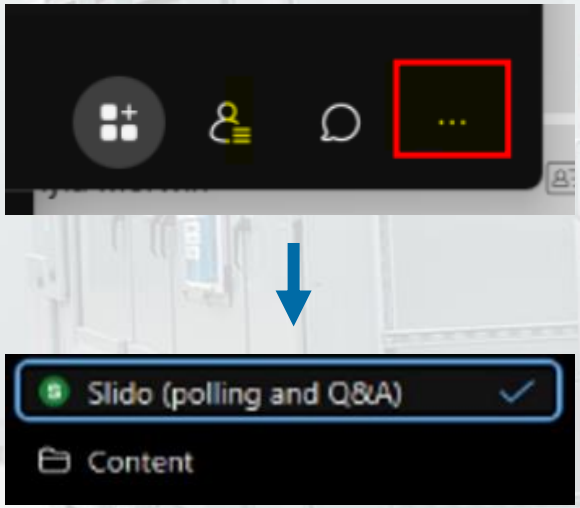


Office of Fire Prevention & Control (OFPC):

- BESS Fire Service Response Guide
- Lithium-ion Battery Awareness Course (DHSES Learning Management)

Questions?

Please submit questions via the Slido Q&A feature in WebEx.



Webinar recording + slides will be posted on the 2025 Bulk Energy Storage Solicitation website: www.nyserda.ny.gov/iscrfp