

Permitting and Renewable Energy in New York



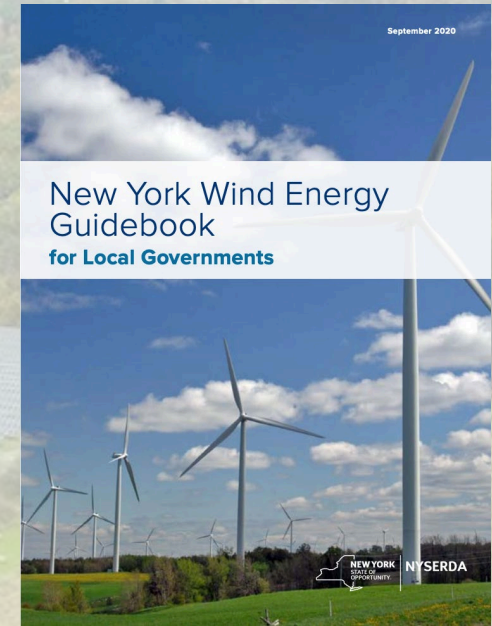
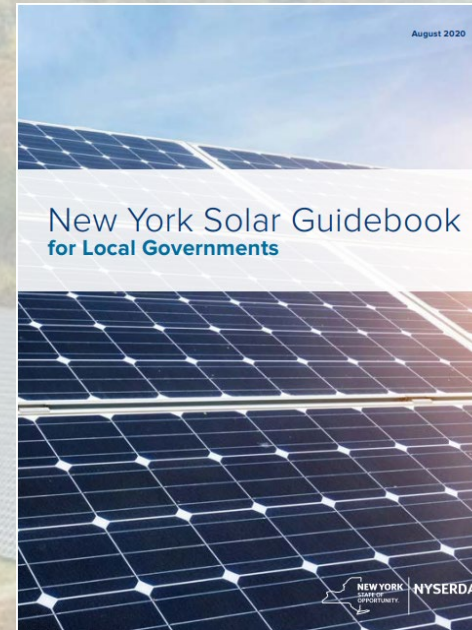
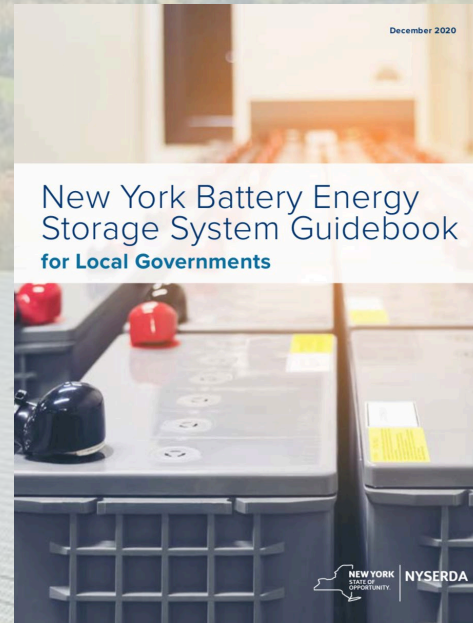
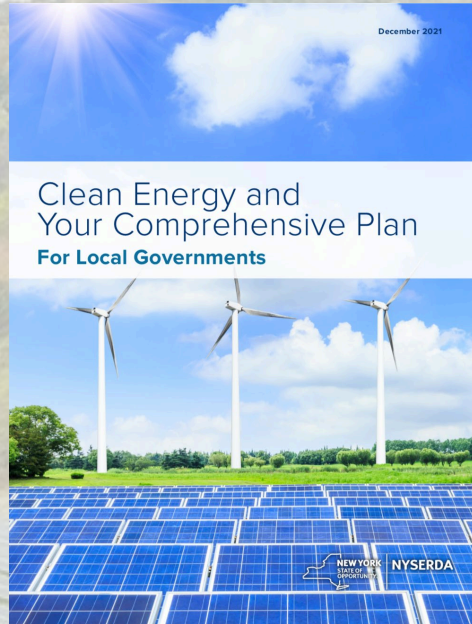
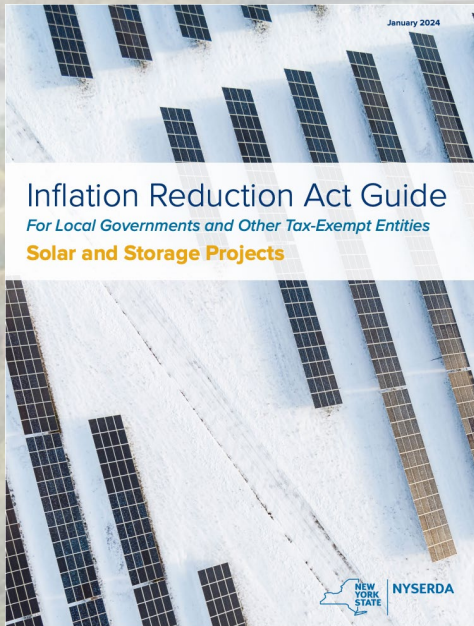
NYSERDA

Jennifer Manierre
Director, Clean Energy Siting
Fulton and Montgomery Counties
April 9, 2025

Agenda:

- **Introduction**
- **Overviews**
 - Clean Energy in NY
 - Comprehensive Planning
 - Wind
 - Solar
 - Energy Storage
- **Resources**

Introduction



Clean Energy Siting Team:
www.nyserda.ny.gov/Siting

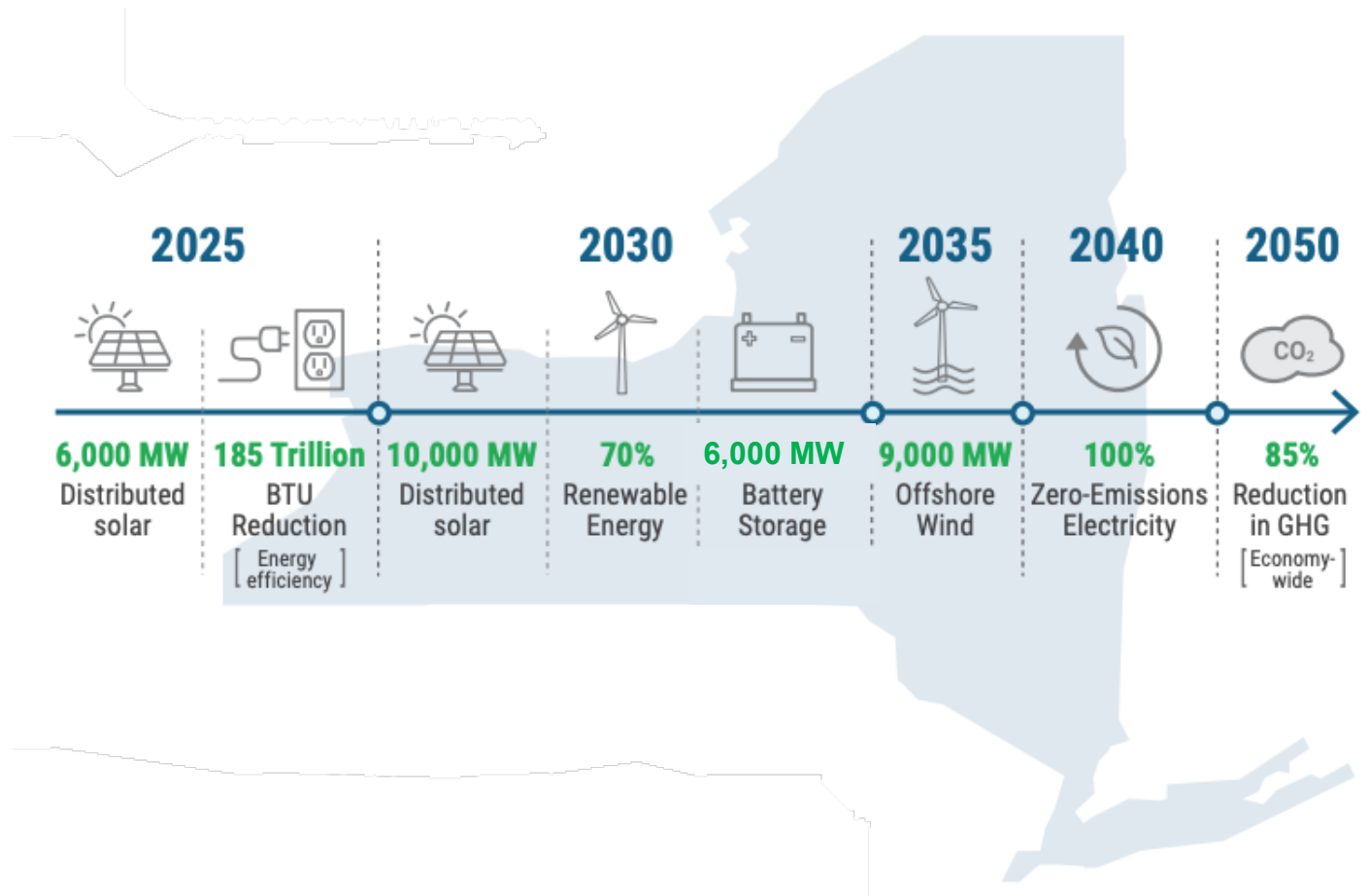


Overview: Clean Energy in NYS

NYS Clean Energy Landscape

Notable legislation & milestones:

- **2019:** Climate Leadership & Community Protection Act
- **2020:** Accelerated Renewable Energy Growth and Community Benefit Act
- **2022:** Climate Action Council Scoping Plan

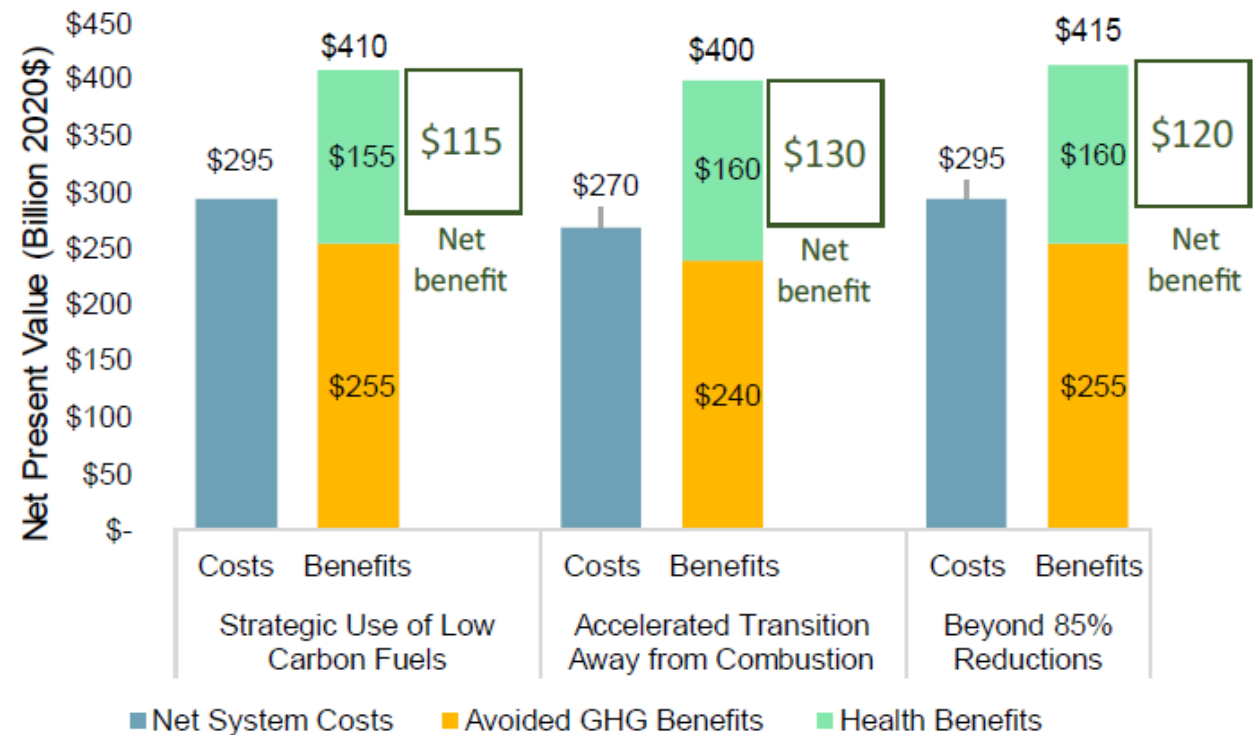


NYS Climate Action Council Scoping Plan

\$\$ Net Benefit \$\$

Avoided GHG Benefits and Health Benefits outweigh Costs

Figure 12. Summary of Benefits and Costs (NPV Relative to Reference Case)



Community Benefits

- Lease Payments
- [Host Community Benefit Program](#)
- Host Community Agreements
- Taxation and [Tax Department Assessment Methodology](#)
- Payments-In-Lieu-Of-Taxes (PILOTs) - RPTL 487 or IDA
- NYSERDA's Build-Ready Program

Taxes and Payments-in-Lieu-of-Taxes (PILOTs)

Real Property Tax Law § 487

- **15-year real property tax exemption for renewable energy systems**
- **Jurisdictions may choose to “opt out” of the RPTL § 487 exemption**
 - Opting out may make solar projects uneconomic
 - RPTL § 487 does not allow partial opt-outs (e.g. to tax only large projects)
 - Jurisdictions that opt out of the RPTL § 487 exemption may opt back in by passing a local law or resolution
- **Jurisdictions that do not opt out of the RPTL § 487 exemption may issue PILOT agreements, which allow jurisdictions to generate revenue “in-lieu-of” taxes**

IDAs may still offer PILOTs per their normal processes regardless of RPTL § 487 status

Update in 2021: Standardized Appraisal Methodology for solar and wind > 1MW:

<https://www.tax.ny.gov/research/property/renewable-appraisal.htm>

- Current litigation: 575-b deemed unconstitutional in March 2025, Attorney General filed an appeal in April 2025, tentative tax roles May 1st

NYS Real Property Tax Law § 575-b

- Standardized Assessment Methodology for Solar and Wind >1MW
- Updated Annually by Department of Taxation and Finance
- Can help inform PILOT and Host Community Agreement negotiation
- Current litigation – 575-b deemed unconstitutional in March 2025, Attorney General filed an appeal in April 2025, tentative tax roles May 1st

Clean Energy Intro: Wind Energy

System Components:

1. Rotor/Blades Assembly
2. Nacelle
3. Tower

System Characteristics:

- Increasing turbine capacities/sizes
- Increased rotor diameters
- Increased tower/hub heights
- Onshore turbines smaller than offshore



Clean Energy Intro: Solar Energy

- **Solar Photovoltaics (PV) vs. Concentrated Solar Power (CSP) vs. Solar Thermal**
 - **Types of Solar PV installations:**
 - Residential
 - Commercial
 - Community Solar
 - Utility-Scale
- “Behind the Meter”**
Rooftop or Ground-Mounted
- “Front of the Meter”**
Ground-Mounted
- **Ground-Mounted Solar**
 - 5-7 acres per MW
 - 100-200 homes per MW



Clean Energy Intro: Energy Storage

System Components:

- Cells -> Modules -> Racks
- Battery Management System (BMS)

Installation Types:

- Residential
 - Commercial
 - Utility-Scale
- "Behind the Meter"**
- "Front of the Meter"**

Details/Purposes:

- Often paired with intermittent renewables
- Backup power
- "Energy arbitrage"
- Grid upgrade deferrals
- Grid services



Primary Land Use/Local Considerations

All technologies:

- Appropriate location/zoning
- Environmental impacts
- Bulk/area standards
- Decommissioning
- Taxation

Solar:

- Visual/aesthetic impacts
- Agricultural land impacts

Wind:

- Visual/aesthetic impacts
- Noise
- Shadow flicker

Energy Storage:


- Fire safety
- Incident management training



Snapshot: Permitting Authority

Permitting Authority for Renewables & Energy Storage in NYS:

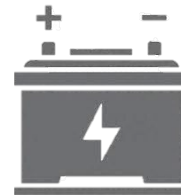
Technology Type		State Approval (Article 10, ORES)	Local Approval (SEQR/local regulations)	Combination of State & Local Approvals (PSL §68, SEQR/local regulations)
Renewable Generator (e.g. solar, wind)		≥ 25 MW	< 25 MW	N/A
Battery Energy Storage System	Co-located w/ Renewable Generator	All sizes if co-located w/ ≥ 25 MW renewable generator	All sizes if co-located w/ < 25 MW renewable generator	N/A
	Standalone System	N/A	≤ 80 MW	> 80 MW

A photograph of a flock of sheep grazing in a field next to a large solar panel array, with a dense forest in the background. The sheep are of various colors, including white, brown, and tan. The solar panels are mounted on a structure that allows them to be tilted. The background is a dense forest of trees with green and some autumn-colored foliage.

Clean Energy and Your Comprehensive Plan

Early Stages: Why Plan for Clean Energy?

- It's in the name:
Comprehensive Plan
- NYS Enabling Statutes:
“in accordance with a comprehensive plan”
- Benefits:
 - Tangible representation of jurisdiction's priorities and policies
 - Clarity for municipal boards, decision makers, project developers, etc.
 - May strengthen jurisdiction's position in event of legal dispute, challenge
 - Access to grants and incentives



Defining & Understanding Clean Energy:

Important to ensure that scope of community's understanding of/plans for clean energy aligns with technologies and programs supporting NYS programs/goals.

As such, “clean energy” should consider:

- (1) Renewable generating technologies
- (2) Technologies, strategies, and concepts which support implementation of renewables

Comprehensive Planning and Large-Scale Renewables

Permitting Regimes for Large-Scale Renewable Generators:

Article 10:

- Exhibit 4: Land Use

ORES:

- Exhibit 3: Location of Facilities and Surrounding Land Use

“A statement as to whether any applicable local jurisdiction **has an adopted comprehensive plan** applicable to lands on which facility components or ancillary facilities are located **and whether the proposed facility is consistent with such comprehensive plan. A copy of the plan shall be provided in the application**, with an indication of plan sections applicable to the proposed uses.”

Creating Clean Energy Content

Implementation Plans:

- Should designate responsibilities, identify available resources, and clarify timelines for selected goals, objectives, and strategies.
- Can be used to evaluate feasibility of selected objectives and strategies.
- Serve as a roadmap to ensure Comp Plan components are completed and not forgotten.

Example: Implementation Plan for Clean Energy Goal

<i>Goal</i>	<i>Objective</i>	<i>Strategy</i>	<i>Responsible Party</i>	<i>Resources</i>	<i>Time Period</i>
Goal 1: Support the transition towards clean energy sources.	Streamline the project review and approval process so that it is efficient and predictable.	Adopt Unified Solar Permit	Town Board; Building Inspector	Unified Solar Permit Toolkit Technical assistance from NYSERDA CEC Program + Siting Team	___ months

Creating Clean Energy Content

Implementation Plans (cont.):

<i>Goal</i>	<i>Objective</i>	<i>Strategy</i>	<i>Responsible Party</i>	<i>Resources</i>	<i>Time Period</i>
Goal 2: Promote clean energy technologies in [Municipality's] services and facilities.	Maximize opportunities for municipal buildings and schools to use renewable energy resources, as feasible.	Adopt a benchmarking policy for municipal facilities.	Municipal legislature; Municipal administrative staff.	Technical and program assistance from NYSERDA Clean Energy Communities Program	__ months

<i>Goal</i>	<i>Objective</i>	<i>Strategy</i>	<i>Responsible Party</i>	<i>Resources</i>	<i>Time Period</i>
Goal 3: Support financial strategies that further clean energy development and decrease the cost of electricity.	Support residential and commercial clean energy projects through regulations and taxation policies	Ensure the RPTL § 487 tax exemption remains in place	Municipal legislature; Municipal assessor	NYSERDA Solar Guidebook for Local Governments NYS Department of Taxation and Finance resources	__ months

<i>Goal</i>	<i>Objective</i>	<i>Strategy</i>	<i>Responsible Party</i>	<i>Resources</i>	<i>Time Period</i>
Goal 4: Increase clean energy-related employment, business development, and training opportunities.	Encourage the development of education and training programs for clean energy employment opportunities.	Partner with local clean energy businesses to create paid internships and training opportunities.	Municipal staff; local businesses	Local / Regional Planning Agencies; NYSERDA Clean Energy Internship Program	__ months

Land-Use Moratoria

- The What:** A local law or ordinance **suspending (for a reasonable time) property owners' rights** to obtain development approvals.
- The Why:** Grant time to **consider, draft, and adopt land-use plans** to respond to circumstances **not adequately dealt with** under its current laws.
- The How:** Requires the local legislature to **formally adopt and file** a law or ordinance.

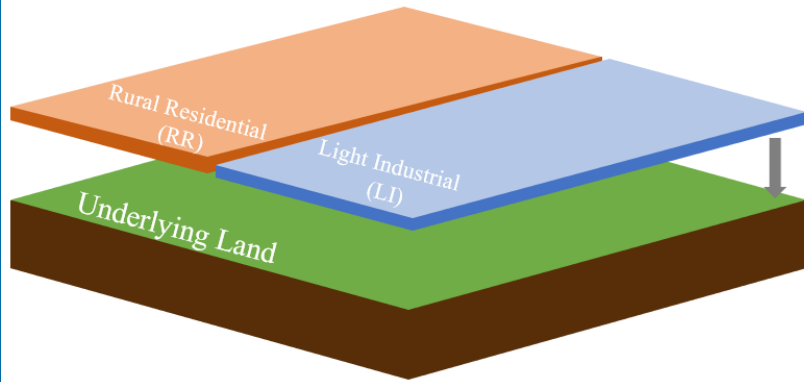
Things to Consider:

- “Reasonableness”
- Impacts on landowners/community
- Specificity of timeline & scope
- Legal standing

Local Regulatory Approaches

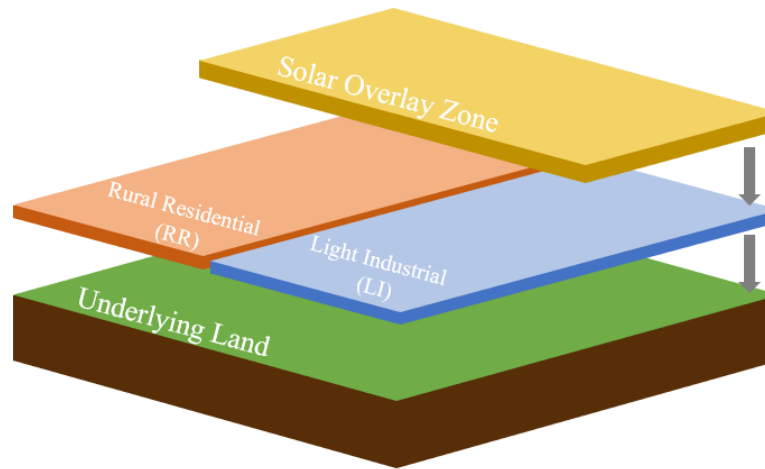
Conventional Zoning

Conventional Zones



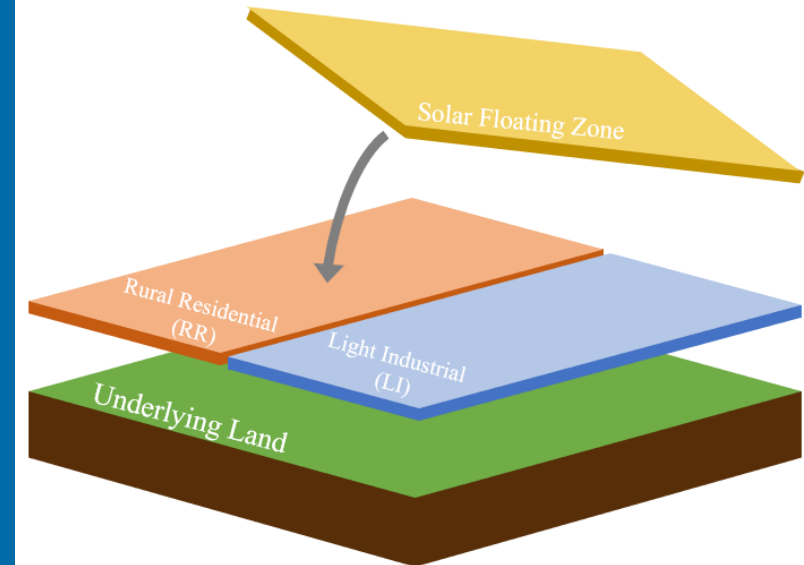
Overlay Zoning

Overlay Zones



Floating Zoning

Floating Zones



Wind



Introduction to Wind Energy

Why consider wind energy?

- Generation profile (time of day, capacity factors)
- Levelized cost of energy
- Efficient land-use/co-utilization

What's driving innovation in wind energy?

- Increased turbine output/capacity
 - Increased height, rotor blade length
 - Offshore vs. onshore
- Alternate design configurations

Distributed Wind Installations



Lockport, NY

Single turbine, 10 kW, ~130 ft.



Brooklyn, NY

Single turbine, 100 kW, 160 ft.



Salamanca, NY

Single turbine, 1.5 MW, 265 ft.

Large-Scale Wind Installations



Steel Winds I, II
Lackawanna, NY

14 turbines, 35 MW, ~400 ft.



Orangeville Wind + Storage
Orangeville, NY

58 turbines, 94 MW, ~430 ft.



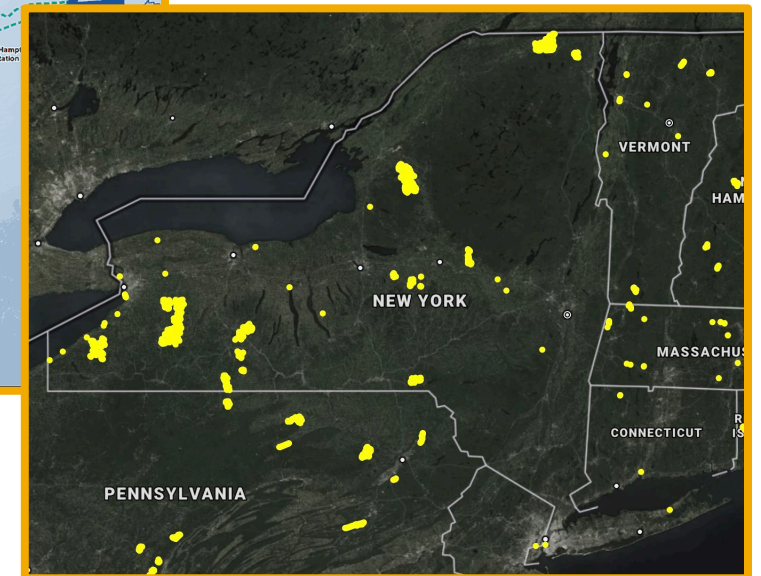
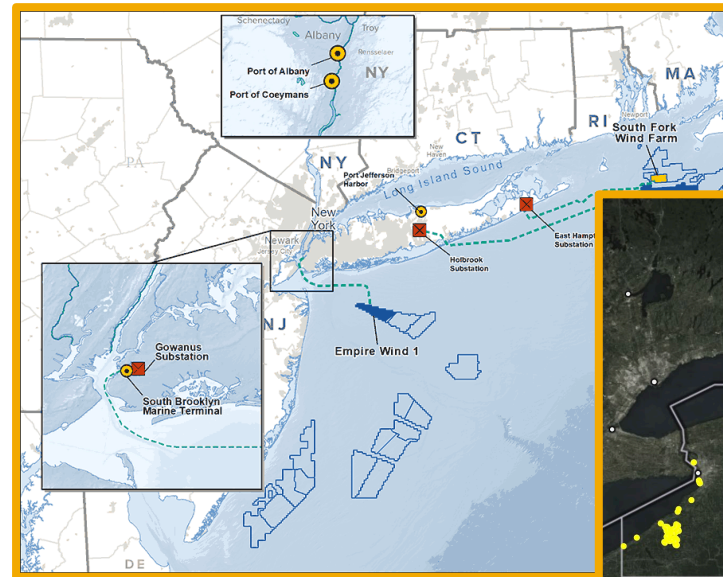
Maple Ridge Wind Farm
Lewis County, NY

195 turbines, 322 MW, ~320 ft.


Introduction to Wind Energy

Level-setting on wind energy in NYS:

- Almost entirely limited to large-scale, bulk power market segment (offshore + onshore)
- Geospatial limitations
- Mix of new vs. repowering existing projects



Zoning Considerations: Wind Energy

The background image is a landscape photograph. In the foreground, there's a green field. In the middle ground, a small farm with a dark barn and some outbuildings is visible. Behind the farm, there are rolling green hills. In the distance, several large white wind turbines are visible against a sky filled with white and grey clouds. The text 'Zoning Considerations: Wind Energy' is overlaid in the upper half of the image.

Snapshot: Permitting Authority

Permitting Authority for Renewables & Energy Storage in NYS:

Technology Type		State Approval (Article 10, ORES)	Local Approval (SEQR/local regulations)	Combination of State & Local Approvals (PSL §68, SEQR/local regulations)
Renewable Generator (e.g. solar, wind)		≥ 25 MW	< 25 MW	N/A
Battery Energy Storage System	Co-located w/ Renewable Generator	All sizes if co-located w/ ≥ 25 MW renewable generator	All sizes if co-located w/ < 25 MW renewable generator	N/A
	Standalone System	N/A	≤ 80 MW	> 80 MW

Considerations:

- Turbine height
- Noise
- Setbacks
- Agricultural Land Impacts
- Design considerations (reflectivity, FAA lighting compliance, signage)

Table 1: Setback Requirements for Wind Turbine Towers

Structure type	Wind Turbine Towers setback*
Substation	1.5 times
Any Above-ground Bulk Electric System**	1.5 times
Gas Wells (unless waived by landowner and gas well operator)	1.1 times
Public Roads	1.1 times
Property Lines	1.1 times
Non-participating, non-residential Structures	1.5 times
Non-participating Residences	2 times
*1.0 times Wind Turbine Towers setback is equal to the Total Height of the Wind Facility (at the maximum blade tip height).	
**Operated at 100 kV or higher, and as defined by North American Electric Reliability Corporation Bulk Electric System Definition Reference Document Version 3, August 2018 (see section 1100-15.1(e)(1)(i) of this Part)	

Solar

A photograph showing a flock of sheep grazing in a grassy field. In the background, there are rows of solar panels installed on a hillside. The sky is overcast and grey. The word "Solar" is written in large blue letters across the middle of the image.

NYSERDA Requirements and Evaluation of Proposed Projects



Interconnection/Grid Considerations

- Interconnection: Maturity through interconnection process and due diligence conducted to plan for interconnection and deliverability costs.
- Energy Deliverability and Grid Benefits: Ability of the project to reliably deliver power to the grid, and at times when power is needed.
- Resource Assessment/Energy Production Estimate: Due diligence conducted to confirm the generation potential of the project.



Project Site/Land Use Considerations

- Permitting Viability: Maturity/due diligence conducted for applicable permitting processes.
- Agricultural Land: Avoidance of agricultural and forested land and co-utilization/mitigation commitments.
- Site Control: Sufficient land controlled to build site.
- Community Engagement: Frequency/scope of local engagement conducted to date.
- Project Development/Financing: Experience developing and financing other comparable large-scale renewable projects.



Department of
Environmental
Conservation



Agriculture
and Markets



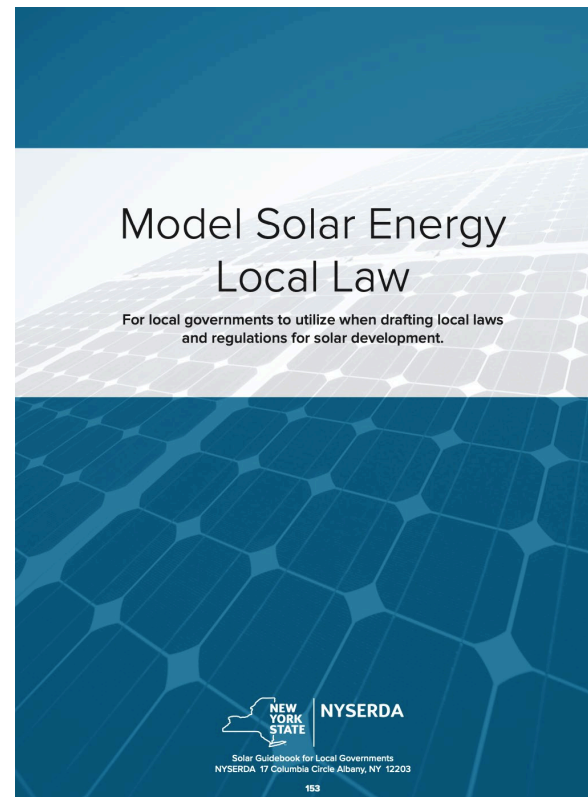
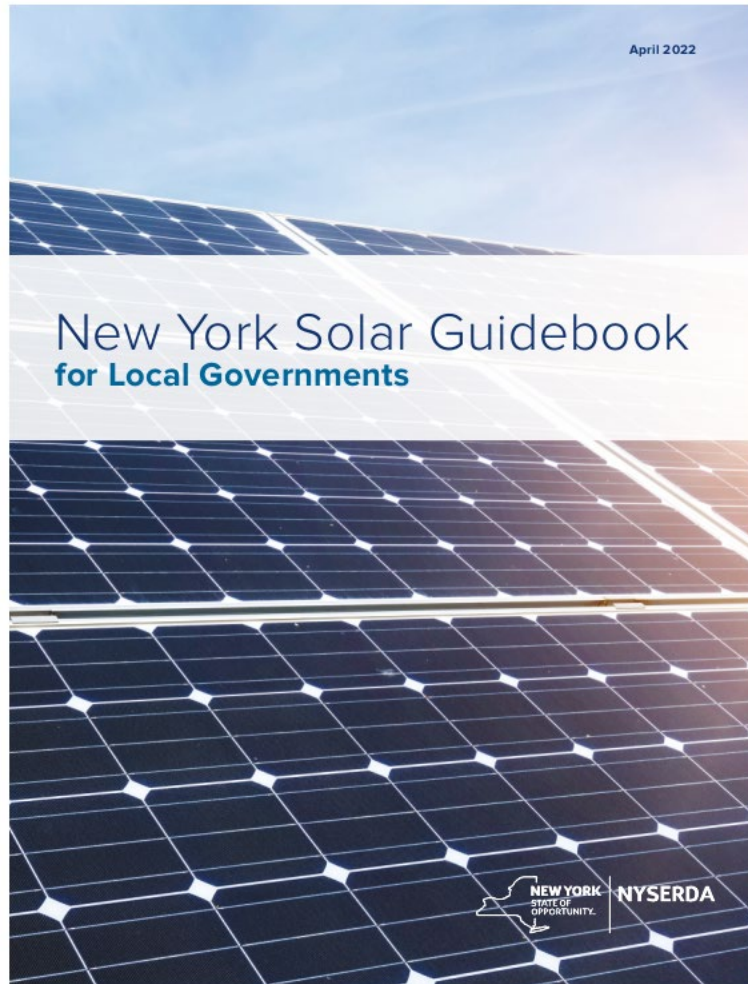
Office of
Renewable
Energy Siting



NYSERDA
Clean Energy
Siting

Current NYSERDA RFP for Large-Scale Renewables:
www.nyseda.gov/ces/rfp

Solar Guidebook for Local Governments



Chapter 1 - Solar PV Permitting and Inspecting in NYS

Chapter 2 - Roof Top Access and Ventilation Requirements

Chapter 3 - State Environmental Quality Review (SEQR)

Chapter 4 - NYS's Real Property Tax Law § 487

Chapter 5 - Solar Payment-In-Lieu-of-Taxes Toolkit

Chapter 6 - Using Special Use Permits and Site Plan Regulations

Chapter 7 - Solar Installations in Agricultural Districts

Chapter 8 - Landowner Considerations for Solar Land Leases

Chapter 9 - Decommissioning Solar Panel Systems

Chapter 10 - Model Solar Energy Local Law

Chapter 11 – Municipal Solar Procurement Toolkit

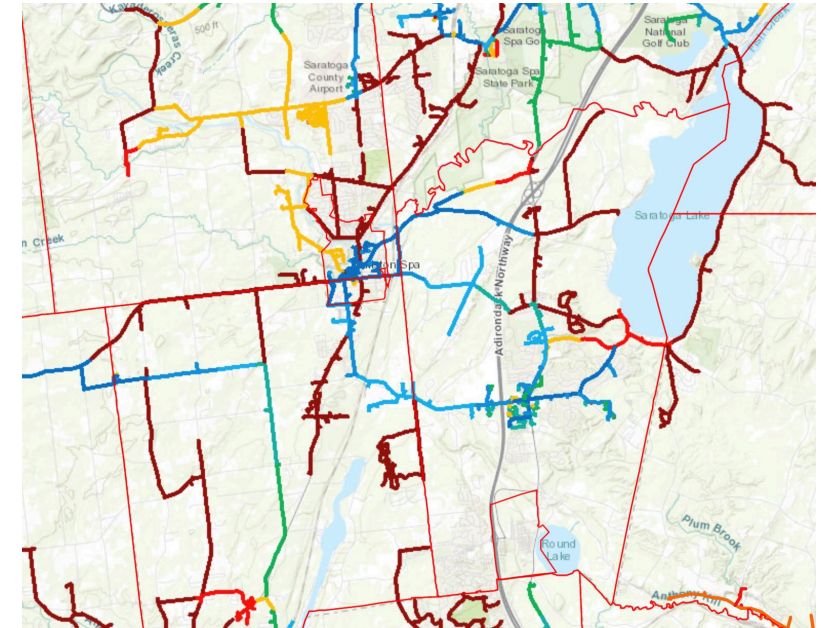
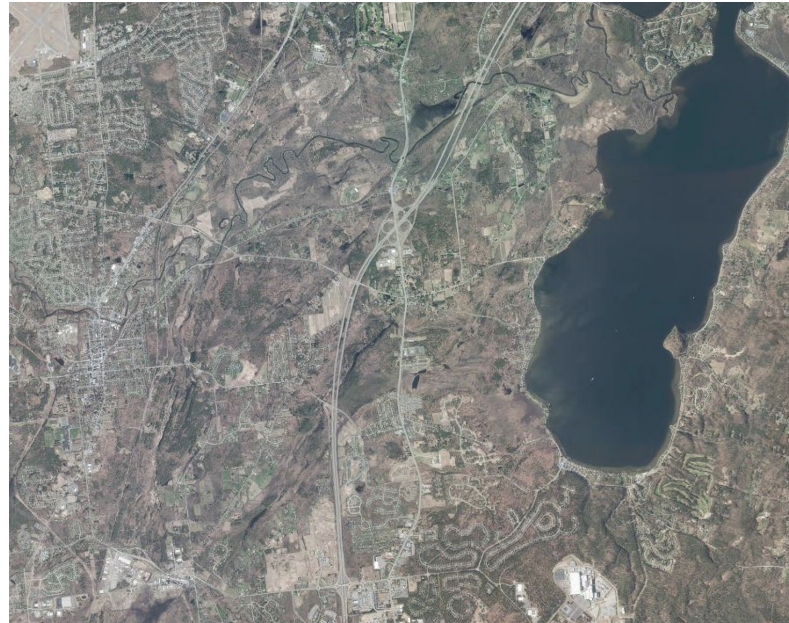
What Should Municipalities Do Before Drafting/Updating a Solar Energy Law?

1. Ensure the solar regulations **conforms to existing plans and policies** such as farmland protection, sustainability, or climate action plans.
2. Municipalities should first **review the available Hosting Capacity maps** to learn if/where the solar development is economic and possible.
3. Amend the **comprehensive plan** – before, if not concurrently– to include a strategy for municipality-wide solar development.
4. Conduct **outreach with the community** to gather all available ideas, identify divergent groups and views, and secure support from the entire community.
5. Create a **working group** that will conduct meetings on a community-wide basis and studies to determine whether existing policies, plans, and land use regulations require amendments to remove barriers to and facilitate solar energy development goals.

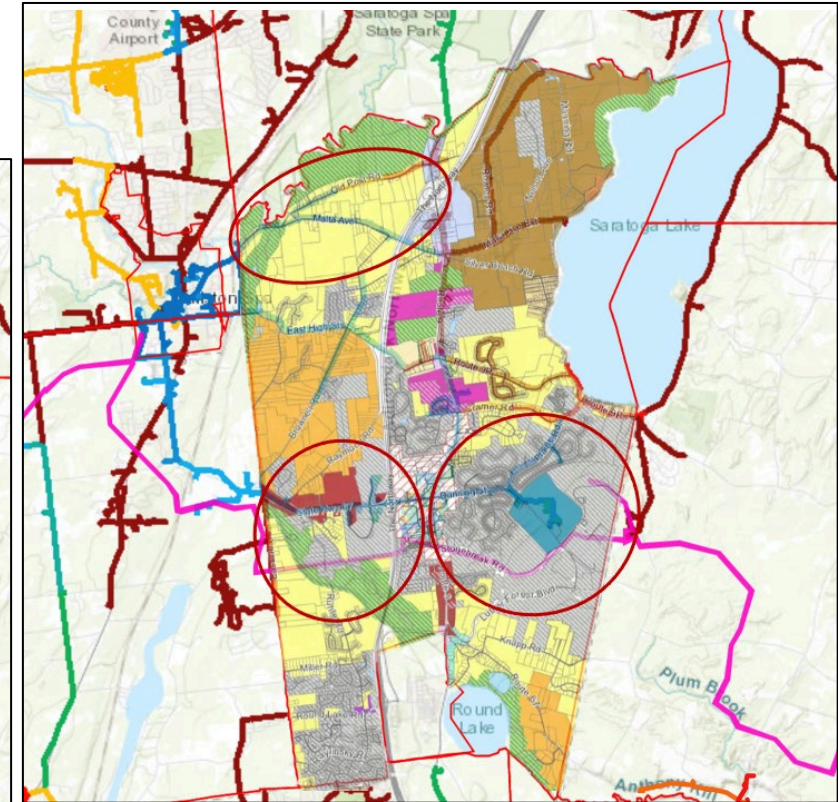
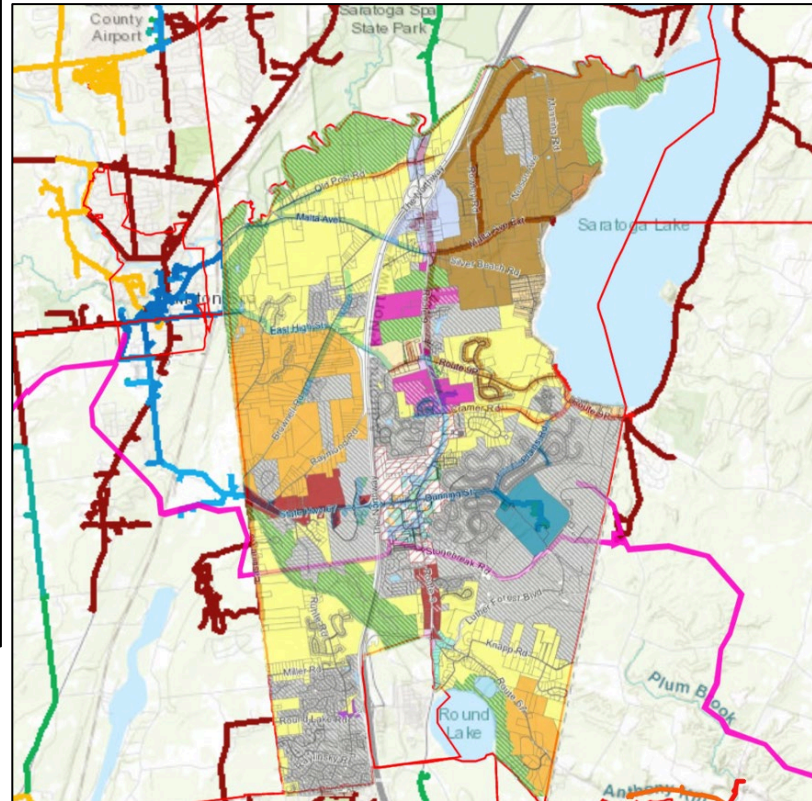
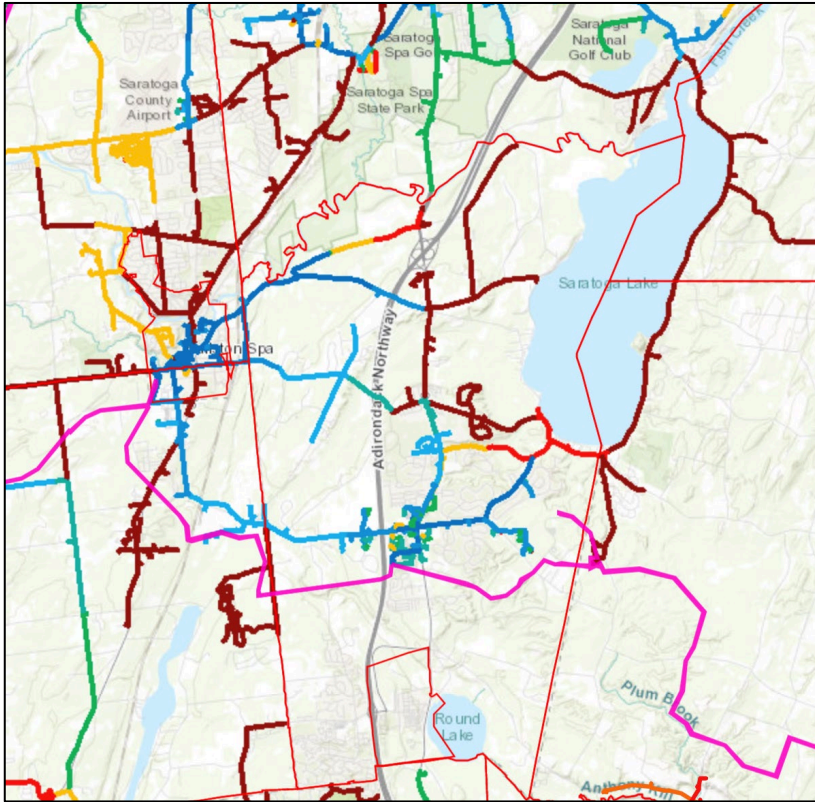
Hosting Capacity Mapping

Purposes of this exercise:

- Visualize local energy distribution infrastructure
- Identify general potential locations for solar development based on select criteria:
 - Grid proximity
 - Grid hosting capacity
 - Existing zoning
 - Proximal land use



Hosting Capacity Mapping



Permitting Solar Energy Systems

Permitting process **varies based on size** of the installation:

- **Projects < 25 MW:** Permitted at local level (SEQR, municipal requirements)
- **Projects > 25 MW:** Permitted at State level (Article 10, Office of Renewable Energy Siting and Electrical Transmission [ORES])



Model Law Contents

Section 1: Authority

Section 2: Statement of Purpose

Section 3: Definitions

Section 4: Applicability

Section 5: General Requirements

Section 6: Permitting Requirements for Tier 1 Solar Energy Systems

Section 7: Permitting Requirements for Tier 2 Solar Energy Systems

Section 8: Permitting Requirements for Tier 3 Solar Energy Systems

Section 9: Permitting Requirements for Tier 4 Solar Energy Systems

Section 10: Safety

Section 11: Permit Time Frame and Abandonment

Section 12: Enforcement

Section 13: Severability

Section 3: Definitions

System Energy System Classifications

Tier 1 Solar Energy System:

- Roof-Mounted
- Building-Integrated
- Ground Mounted – Nameplate capacity up to 25 kW AC or panel surface area up to 4,000 sq ft
- On-Farm Solar Systems

Tier 2 Solar Energy System: Ground-Mounted systems not included in Tier 1 with a nameplate capacity up to [1] MW AC OR facility area up to [8] acres and generates no more than 110% of the energy used on this site.

Tier 3 Solar Energy System: Ground-Mounted systems not included in Tier 1 or 2 with a nameplate capacity up to [5] MW AC OR facility area of up to [40] acres.

Tier 4 Solar Energy System: Not included under Tier 1, Tier 2 or Tier 3 Solar Energy System.

- Not included in Tier 1, 2, or 3. Includes new projects that are subject to state level siting process by the Office of Renewable Energy Siting (ORES)

Permitting Solar Energy Projects

- Important to base solar planning decisions on feasibility and priorities – utilize Utility Hosting Capacity maps, transmission line maps, zoning map, soil maps, etc.
 - Model Law permitting methodology:
 - > Tier 1: permitted in all districts
 - > Tier 2: permitted in all districts as accessory structures
 - > Tier 3 and Tier 4: permitted in ____ districts using **Special Use Permit, Site Plan Review**
- } Building Permit; NYS Unified Solar Permit

PERMIT APPLICATION

NY State Unified Solar Permit

Unified solar permitting is available statewide for eligible solar photovoltaic (PV) installations. Municipal authorities that adopt the unified permit streamline their process while providing consistent and thorough review of solar PV permitting applications and installations. Upon approval of this application and supporting documentation, the authority having jurisdiction (AHJ) will issue a building and/or electrical permit for the solar PV installation described herein.

PROJECT ELIGIBILITY FOR UNIFIED PERMITTING PROCESS

By submitting this application, the applicant attests that the proposed project meets the established eligibility criteria for the unified permitting process (subject to verification by the AHJ). The proposed solar PV system installation:

- | | | |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 1. Has a rated DC capacity of 25 kW or less. |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 2. Is not subject to review by an Architectural or Historical Review Board. (If review has already been issued answer YES and attach a copy) |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 3. Does not need a zoning variance or special use permit. (If variance or permit has already been issued answer YES and attach a copy) |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 4. Is mounted on a permitted roof structure, on a legal accessory structure, or ground mounted on the applicant's property. If on a legal accessory structure, a diagram showing existing electrical connection to structure is attached. |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 5. The Solar Installation Contractor complies with all licensing and other requirements of the jurisdiction and the State. |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | 6. If the structure is a sloped roof, solar panels are mounted parallel to the roof surface. |

For solar PV systems not meeting these eligibility criteria, the applicant is not eligible for the Unified Solar Permit and must submit conventional permit applications. Permit applications may be downloaded here: [BUILDING DEPARTMENT WEBSITE] or obtained in person at [BUILDING DEPARTMENT ADDRESS] during business hours [INDICATE BUSINESS HOURS].

System Tier Examples

Tier 1



Rooftop Installations

Tier 1 / 2



Small Ground-Mount Installations

Tier 2 / 3 / 4



Tier 1 Roof-Mounted Solar Energy System



Tier 1 Building-Integrated Solar Energy System



Tier 2 Ground-Mounted Solar Energy System



Tier 3 Ground-Mounted Solar Energy System



Tier 4 Ground-Mounted Solar Energy System



Section 8: Tier 3 Systems Permitting Requirements

Process for Approval

- Choose which zoning district(s) to permit systems.
- Applications shall be reviewed for completeness within [30] days.
- Applications shall be subject to a public hearing.
- Referred to the [County Planning Department] pursuant to General Municipal Law § 239-m as required.
- Upon closing the public hearing, the reviewing board shall have 60 days to take action on the application.

Requirements for Approval

1. Site Plan Application

2. Special Use Permit Standards

1. Underground Requirements
2. Vehicular Paths
3. Signage
4. Glare
5. Lighting
6. Multiple Lots
7. Lot Size

8. Setbacks

9. Height
10. Lot Coverage
11. Fencing Requirements
12. Screening and Visibility
13. Environmental Resources

14. Agricultural Resources

3. Ownership Changes

Section 9: Tier 4 Systems Permitting Requirements

Process & Requirements for Approval



Choose which zoning district(s) to permit systems.



Subject to Site Plan and Special Use permit Requirements established for **Tier 3 Systems**.



Applications shall be reviewed for completeness within 60 business days.



Applicants must conduct a **Pre-Application Meeting** with the Reviewing Board.



Applications must include a **Community Engagement Plan**.



Additional Special Use Permit Standards.

Decommissioning Requirements

B.13. Decommissioning Plan

- Signed by the owner and /or operator of the solar system and submitted by the applicant.
 - States the time required to remove the system and ancillary structures.
 - States time required to repair property damage caused by installation/removal
 - States the cost of decommissioning and removal of the system and necessary remediation or restoration.
- **Requires a decommissioning financial surety** to ensure system removal and site restoration at the end of a project's useful life (or other condition which may trigger decommissioning).
 - The amount shall be [115]% of the cost of removal and site restoration, and shall be revisited every [5] years and updated as needed to reflect any changes.

Tier 3 and 4 Special Use Permit Standards

9. Height (select from the following options):

- Subject to the height limitations of the underlying zoning district.
- Follow the suggested height limits for each zoning district.

Zoning District	Height
Residential Low Density	15 feet
Residential High Density	--
Commercial / Business	20 feet
Light Industrial	20 feet
Heavy Industrial	20 feet
Agricultural/ Residential	20 feet

10. Lot Coverage

- Exempt from the lot coverage requirements in the underlying zoning district.

Key:

--: Not Allowed

N/A: Not Applicable

Setback Requirements

Tier 3 Setback options:

- Subject to the setback requirement of the underlying zoning district.
- Follow the suggested setback requirement for each zoning district.

Tier 4 Setback options:

- Carries over Tier 3 setback approaches, with added layer of setback to non-participating occupied residences.

Zoning District	Front	Side	Rear	Non-Participating Occupied Residence
Residential Low Density	100'	100'	100'	250'
Residential High Density	--	--	--	--
Commercial / Business	30'	15'	25'	250'
Light Industrial	30'	15'	25'	250'
Heavy Industrial	30'	15'	25'	250'
Agricultural / Residential	30'	15'	25'	250'

Tier 3 and 4 Special Use Permit Standards

12. Screening and Visibility –

- Systems smaller than 10 acres will minimize views from neighboring properties by using architectural features, berms, or landscaping
- Systems larger than 10 acres:
 - Conduct visual assessment, line sight profile.
 - Screening and landscaping plan to minimize view:
 - Detail plan with plantings, species, height, grading, etc.
 - Option to follow requirements in law or reference other community standards
 - Reviewing board may elect to waive certain requirements if no impact



Tier 3 Special Use Permit Standards

13. Environmental Resources –

- Minimize tree removal for existing trees larger than 6 inches in diameter
- Native vegetation for game birds, songbirds, and pollinators
 - > Farm-related activities may be excluded by Reviewing Board
- Limit or refrain from pesticide and herbicide use for long term operation and maintenance

14. Agricultural Resources –

- System components shall occupy no more than [50]% of the Mineral Soil Groups (MSG) 1-4 area
 - > May exceed the [50]% threshold if it incorporates onsite Farm Operation
 - > Review Board may exempt portions if MSG 1-4 land is not viable for agricultural production
- Decommissioned according to NYS Department of Agriculture and Markets guidelines



Tier 4 Special Use Permit Standards

Special Use Permit Requirement Adjustment:

Agricultural Resources: for Facility Areas including Active Agricultural Lands

- Tier 4 System components, equipment, and associated impervious surfaces shall not occupy more than [50%] of the Active Agricultural Lands within the Facility Area
- Exceedance of [50%] threshold may be allowed based on the Reviewing Board's determination that the land is being used for a Farm Operation
- Require adherence to NYSAGM Guidelines



Promoting Co-Location: Agrivoltaics

Key benefits of dual-use solar approaches may include:

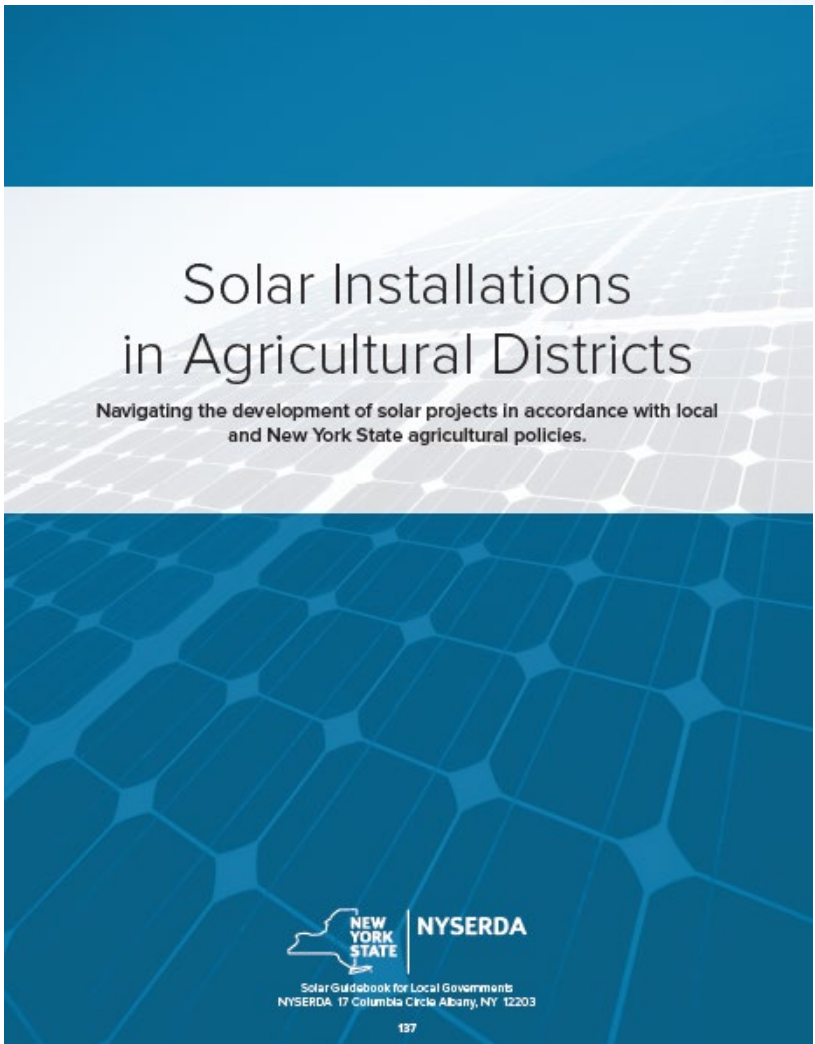
- Collaboration between solar developers, local farms, and agricultural organizations that benefits all parties
- Improvements in soil health and water retention
- Farmland preservation, viability, and intergenerational transfer
- Investments in farm infrastructure and equipment
- Land use optimization and integrated farm management
- Opportunities for research on land management and agronomic practices



Promoting Co-Location: Agrivoltaics



Solar Installations on Agricultural Lands



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Agricultural Technical Working Group (A-TWG)

- Genesee/Finger Lakes Regional Planning Council
- Suffolk County Dept. of Economic Development & Planning
- Tug Hill Commission

- Consensus Building Institute
- WSP
- Pace Law

- American Farmland Trust
- NY Farm Bureau
- NYS Assoc. of Conservation Districts
- Northeast Ag & Feed Alliance
- Northeast Dairy Producers Assoc.

**Local &
Regional
Government**

**Technical &
Facilitation
Support**

**Farmers & Ag
Land Advocates**

**State
Agencies**

- NYSERDA
- NYSAGM
- NYSDEC

**Solar
Industry**

- ACE NY
- EDF Renewables
- Nexamp
- NYSEIA

**NGOs / Academia
– Ag. & Clean
Energy**

- Scenic Hudson
- The Nature Conservancy
- New Yorkers for Clean Power
- Cornell College of Ag & Life Sciences

A-TWG

www.nyatwg.com



NYSERDA

Active A-TWG Specialist Committees

Agrivoltaics

- Exploring the applicability, feasibility, and reasonability of agrivoltaics in New York
- Recent Outputs [Growing Agrivoltaics in New York](#)

Growing Agrivoltaics in New York State:
Advancing Understanding of Opportunities to
Integrate Renewables into Working Landscapes

Final Report | Report Number 2513 | October 2023



RAISE

- RAISE = Regional Agronomic Impact From Solar Energy
- To advise and inform development of a study (or suite of studies) that can be undertaken to assess the relative benefits and impacts of solar energy development on regional farmland economies.
- Convened March 2024

Scorecard

- Provides input on approaches to reduce impacts and encourage community collaboration, and how to value these approaches in a scorecard format
- Recent Output: [RESRFP23-1 Smart Solar Siting Scorecard](#)

NYSERDA Incentives for Smart Siting

- Ag Mitigation Payments (30+ acres MSG 1-4)
- Beneficial Siting Adders
 - > Existing: Landfills and Brownfields (\$0 .15/W)
 - > Floating Photovoltaic “FPV” (\$0.15/W)
- Smart Solar Siting Scorecard
- Funding and Research
 - > 2023 RGGI Operating Plan Amendment: \$5 Million
 - > Agrivoltaics Request for Proposals



A row of large, light blue energy storage containers, likely lithium-ion batteries, arranged in a line outdoors. The containers are mounted on a concrete foundation and have various electrical components and warning labels on their doors. The background shows a clear blue sky and some distant greenery.

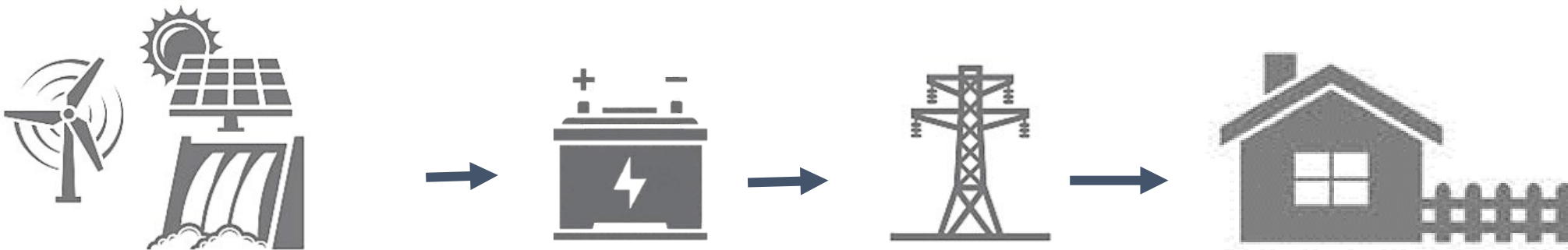
Energy Storage

WHY ARE WE TALKING ABOUT BATTERIES?

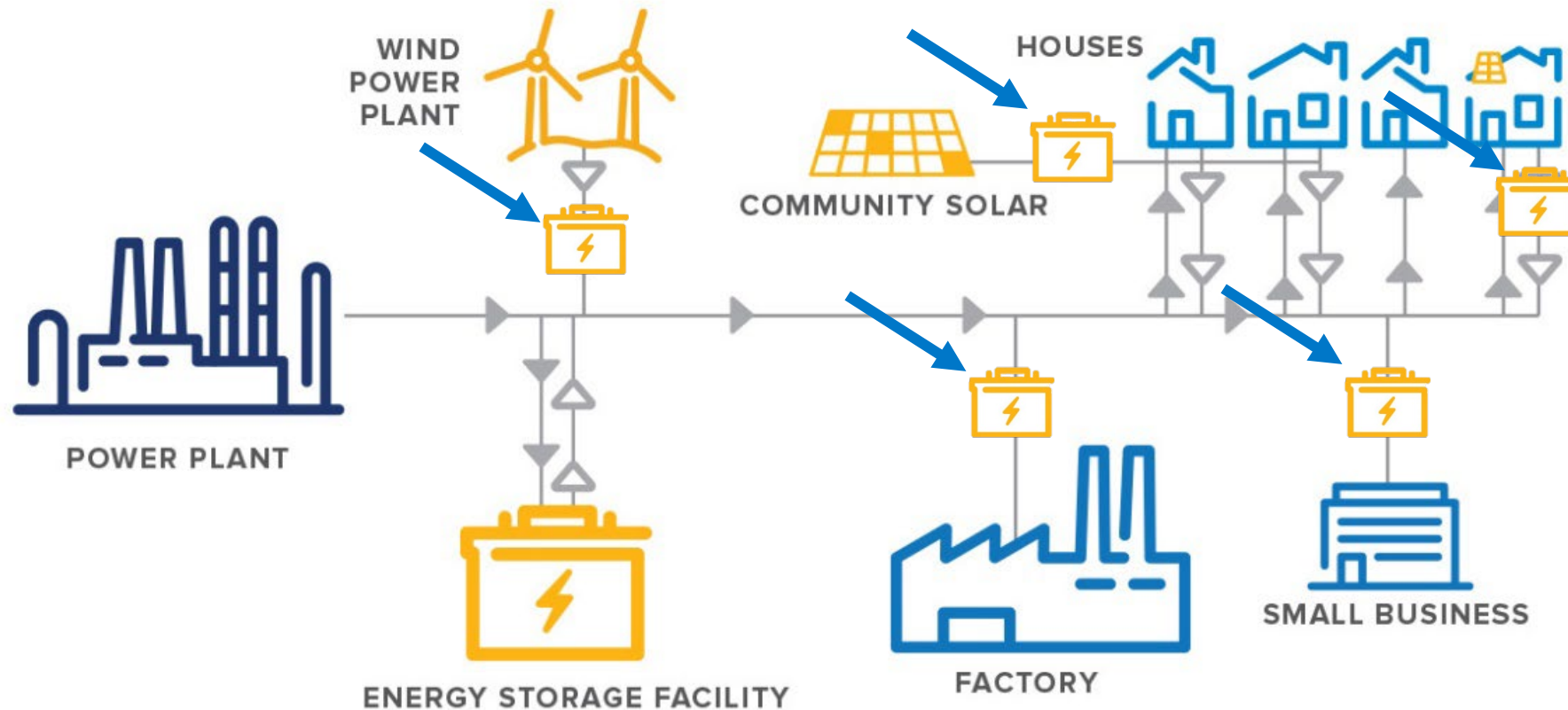
Energy storage acts like a giant battery for the electric grid. It can store extra electricity on sunny days when solar panels are producing more power than we need. Then, it releases that stored energy when we need it most, such as during the evening or on hot days when everyone's using air conditioning.

This helps the grid in two significant ways:

- **Making it more resilient:** If something goes wrong, like a storm knocking out power lines, energy storage can step in to supply electricity, keeping the lights on and essential services running until the problem is fixed.
- **Saving money:** Storage helps avoid the need to turn on expensive power plants only used during peak demand times. By smoothing out supply and demand, it reduces costs for everyone.



Battery Energy Storage Systems (BESS)



TYPES OF BATTERY ENERGY STORAGE SYSTEMS (BESS)

Residential



Commercial



Utility



**Behind-the-meter
“Customer-side”**

**Front-of-the-meter
“Utility-side”**

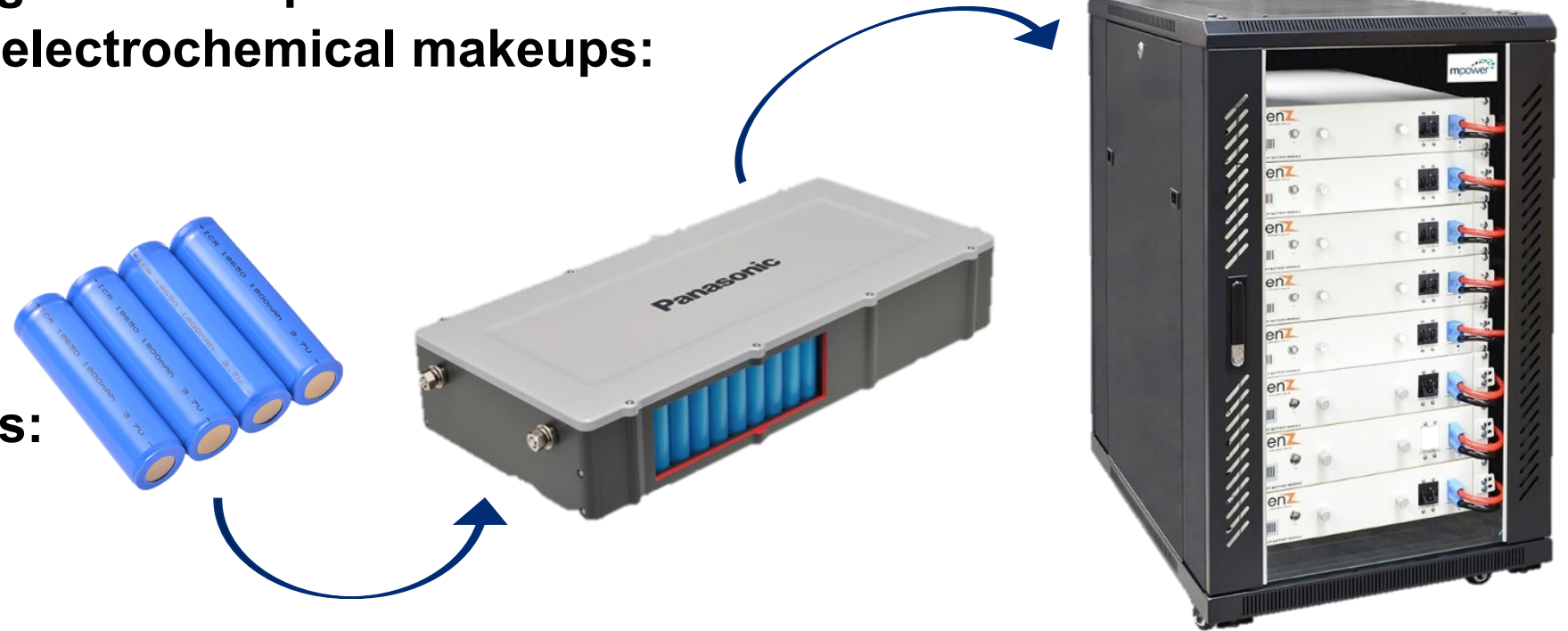
BATTERY ENERGY STORAGE SYSTEMS (BESS)

Battery energy storage can comprise a variety of different electrochemical makeups:

- Lithium Ion
- Lead Acid
- Nickel-Based
- Flow Batteries

BESS building blocks:

- Cells
- Modules
- Racks



BATTERY ENERGY STORAGE SYSTEMS (BESS)

	Lead Acid	Sodium-Sulfur	Flow Batteries	Lithium-Ion
Efficiency	70-85%	70-80%	60-80%	85-95%
Typical duration	2-6 hours	6-8 hours	4-12 hours	0.25-4 hours
Cost	Moderate	Moderate	Moderate	Low
Space required	Large	Moderate	Moderate	Small
Cycle life	500-2,000	3,000-5,000	5,000-8,000+	2,000-6,000+
Technology maturity	Mature	Commercial	Early-moderate	Commercial

BATTERY MANAGEMENT SYSTEM (BMS)

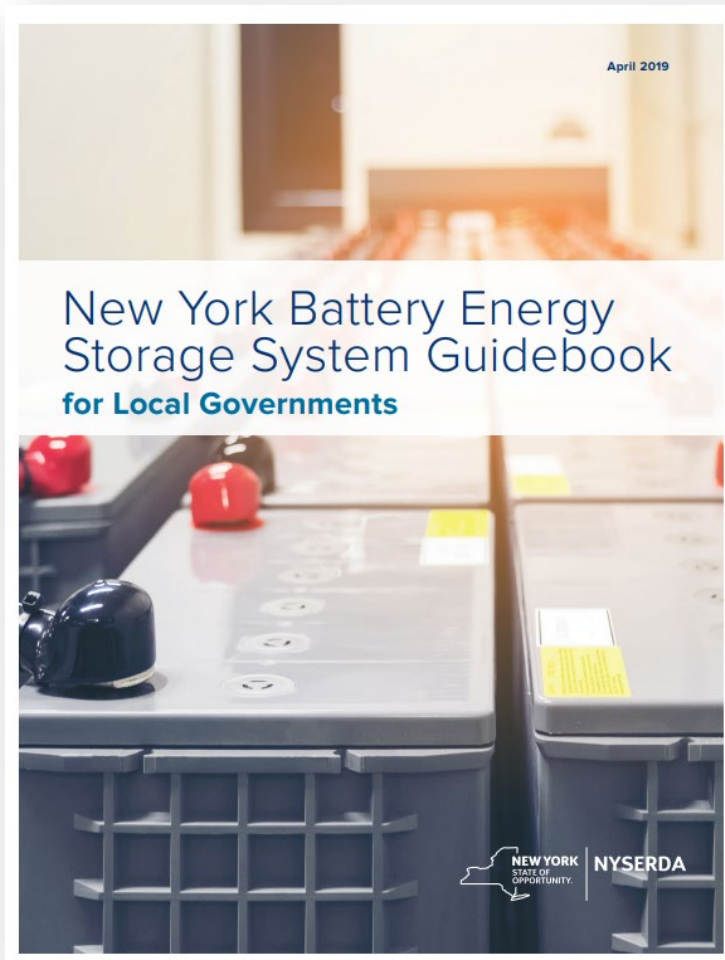
- Monitors each individual cell within the system
 - Capable of monitoring thousands of data points per second
- Will alarm if there are potential issues
- If required, can isolate affected cells or modules from the total system and activate fire protection systems, preventing further failure



Safety Features

- Cell balancing and monitoring
- Thermal management
- Overcharge and over-discharge protection
- Fault diagnosis and reporting

BATTERY ENERGY STORAGE GUIDEBOOK FOR LOCAL GOVERNMENTS



Chapter 1

Battery Energy Storage Model Law

Chapter 2

Battery Energy Storage Model Permit

Chapter 3

Battery Energy Storage Inspection Checklist

Chapter 4

2020 New York State Uniform Code

Chapter 5

Siting Battery Energy Storage Systems to the 2020 Fire Code of New York State

Permitting Battery Energy Storage Systems

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

- **Paired with Renewable Generator <25 MW:** Permitted at local level (State Environmental Quality Review Act (SEQR), municipal/county requirements)
- **Paired with Renewable Generator > 25 MW:** Permitted at State level (Article 10, Office of Renewable Energy Siting and Electric Transmission (ORES))
- **Standalone System ≤ 80 MW:** Permitted at local level (SEQR, municipal/county requirements)
- **Standalone System ≥ 80MW:** Subject to licensing by the Public Service Commission (PSL §68) and SEQR (other State and local municipal reviews/ approvals may apply under SEQR)



Energy Storage Model Law

2. Model Law

1. Authority

This Battery Energy Storage System Law is adopted pursuant to Article IX of the New York State Constitution, §2(c)(6) and (10), New York Statute of Local Governments, § 10 (1) and (7); [Select one: sections 261-263 of the Town Law / sections 7-700 through 7-704 of the Village Law / sections 19 and 20 of the City Law and section 10 of the Municipal Home Rule Law] of the State of New York, which authorize the [Village/Town/City] to adopt zoning provisions that advance and protect the health, safety and welfare of the community.

2. Statement of Purpose

This Battery Energy Storage System Law is adopted to advance and protect the public health, safety, and welfare of [Village/Town/City] by creating regulations for the installation and use of battery energy storage systems, with the following objectives:

- A. To provide a regulatory scheme for the designation of properties suitable for the location, construction and operation of battery energy storage systems;
- B. To protect the health, welfare, safety, and quality of life for the general public;
- C. To ensure compatible land uses in the vicinity of the areas affected by battery energy storage systems;
- D. To mitigate the impacts of battery energy storage systems on environmental resources such as important agricultural lands, forests, wildlife and other protected resources; and
- E. To create synergy between battery energy storage system development and [other stated goals of the community pursuant to its Comprehensive Plan].

3. Definitions

ANSI: American National Standards Institute

BATTERY: A single Cell or a group of Cells connected together electrically in series, in parallel, or a combination of both, which can charge, discharge, and store energy electrochemically. For the purposes of this law, batteries utilized in consumer products are excluded from these requirements.

BATTERY ENERGY STORAGE MANAGEMENT SYSTEM: An electronic system that protects storage batteries from operating outside their safe operating parameters and generates an alarm and trouble signal for off normal conditions.

BATTERY ENERGY STORAGE SYSTEM: A rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, , power conditioning systems, and associated electrical equipment designed to provide electrical power to a building. The system is typically used to provide standby or emergency power, an uninterruptable power supply, load shedding, load sharing, or similar capabilities. A battery energy storage system is classified as a Tier 1, Tier 2, or Tier 3 Battery Energy Storage System as follows:

- A. Tier 1 Battery Energy Storage Systems include either:
 - a) Battery energy storage systems for one to two family residential dwellings within or outside the structure with an aggregate energy capacity that shall not exceed:
 - 1. 40 kWh within utility closets and storage or utility spaces
 - 2. 80 kWh in attached or detached garages and detached accessory structures
 - 3. 80 kWh on exterior walls
 - 4. 80 kWh outdoors on the ground
 - b) Other battery energy storage systems with an aggregate energy capacity less than or equal to the threshold capacity listed in Table 1

This Battery Energy Storage System Law is adopted pursuant to Article IX of the New York State Constitution, §2(c)(6) and (10), New York Statute of Local Governments, § 10 (1) and (7); [Select one: sections 261-263 of the Town Law / sections 7-700 through 7-704 of the Village Law / sections 19 and 20 of the City Law and section 10 of the Municipal Home Rule Law] of the State of New York, which authorize the [Village/Town/City] to adopt zoning provisions that advance and protect the health, safety and welfare of the community.

Section 3: Definitions

System Sizes

Tier 1

Tier 1 Battery Energy Storage Systems 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 Battery Energy Storage Systems have an aggregate energy capacity **greater than 600kWh** or are comprised of more than one storage battery technology in a room or enclosed area.

Tier 1 BESS Installation Photos



Tier 2 BESS Installation Photos



Section 6-7: 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

Battery Energy Storage System Model Permit

Tier 1 Requirement

Overview

The Model Permit is intended to help local government officials and AHJs establish the minimum submittal requirements for electrical and structural plan review that are necessary when permitting residential and small commercial battery energy storage systems.

Additionally, battery energy storage systems shall comply with all applicable provisions of the codes, regulations, and industry standards as referenced in the New York State Uniform Fire Prevention and Building Code.

The Battery Energy Storage System Model Permit is based on the 14th Edition of the National Electric Code (NEC), which is anticipated to be adopted by New York State in 2020. NYSEDA will continue to update the Guidebook as these codes and standards evolve.

The workable version of this document can be found at nyseda.ny.gov/Energy-Storage-Guidebook, under Battery Energy Storage System Model Permit tab.

PERMIT APPLICATION

Battery Energy Storage System Model Permit

Note: Language in [ALL CAPS] below indicates where local jurisdictions need to provide information specific to the jurisdiction. Language in *italics* indicates explanatory notes from the authors of this document that may be deleted from the distributed version.

This application and the following attachments will constitute the Battery Energy Storage System Permitting Package.

- This application form, with all fields completed and bearing relevant signatures.
- Permitting fee of \$[ENTER FEE HERE], payable by [ENTER VALID PAYMENT METHODS, If checks are allowed INCLUDING WHO CHECKS SHOULD BE MADE PAYABLE TO]
- Required Construction Documents for the battery energy storage system being installed, including required attachments.

Completed permit applications can be submitted electronically to [EMAIL ADDRESS] or in person at [BUILDING DEPARTMENT ADDRESS] during business hours [INDICATE BUSINESS HOURS].

Permit determinations will be issued within [TIMELINE] calendar days upon receipt of complete and accurate applications. The municipality will provide feedback within [TIMELINE] calendar days of receiving incomplete or inaccurate applications.

Questions about this permitting process may be directed to [MUNICIPAL CONTACT INFORMATION].

This application and the following attachments will constitute the Battery Energy Storage System Permitting Package.

- This application form, with all fields completed and bearing relevant signatures.
- Permitting fee of \$[ENTER FEE HERE], payable by [ENTER VALID PAYMENT METHODS] If checks are allowed INCLUDING WHO CHECKS SHOULD BE MADE PAYABLE TO]
- Required Construction Documents for the battery energy storage system being installed, including required attachments.

Completed permit applications can be submitted electronically to [EMAIL ADDRESS] or In person at [BUILDING DEPARTMENT ADDRESS] during business hours [INDICATE BUSINESS HOURS].

Section 7: Tier 2 Permitting Requirements

G: Decommissioning

Decommissioning Plan

- i. Anticipated life of system;
- ii. Estimated decommissioning costs;
- iii. How estimate was determined;
- iv. **Method of ensuring available funds for decommissioning and restoration;**
- v. Method to keep decommissioning cost current; and
- vi. Manner in which system will be decommissioned and Site restored.

Decommissioning Fund

Applicant to continuously maintain a fund or bond payable to the city/town/village for removal of the system for the life of the facility

- Form and amount approved/determined by the city/town/village
- May consist of a letter of credit from a State of New York licensed-financial institution
- All costs of financial security borne by the applicant

Section 7: Tier 2 Permitting Requirements

H: Site Plan Application

1. Property lines and physical features of site
2. Proposed changes to landscape, grading, vegetation, lighting, etc.
3. A one or three-line electrical diagram showing layout, equipment components and associated National Electric Code compliant mechanisms
4. Equipment specification sheet for the proposed battery energy storage system components
5. General information including name, address, and contact info of system installer and owner/operator
6. Name, address, phone number and signature of the project applicant and owners, demonstrating their consent to the use of the property for the system
7. Zoning district designation
8. Commissioning plan
- 9. Fire safety compliance plan**
10. Operations and maintenance plan
11. Erosion and sediment control and storm water management plans
12. Signed and sealed engineering documents by a NYS Licensed Professional Engineer, or Registered Architect
- 13. Emergency operations plan**

Fire Safety

NYS INTER-AGENCY FIRE SAFETY WORKING GROUP

In July 2023, in response to fires at three BESS sites, Governor Hochul convened an Inter-Agency Fire Safety Working Group (Working Group).

Agency Participants

- Division of Homeland Security 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)/fire protection engineering firms, national labs, and New York Power Authority

WORKING GROUP MILESTONE DELIVERIES TO DATE & WHAT'S NEXT

- ✓ 1) Release preliminary Air, Soil, and Water **Data Findings** Report. No reported injuries, no detected harmful levels of contaminants linked to the fires. *Issued December 2023*
- ✓ 2) Issuance of final **Fire Code Recommendations** for NYS Uniform Code. Resulted in 11 recommendations for large, grid-scale systems. Draft code language to reflect the recommendations now incorporated into the Notice of Rule in Development. *Issued July 2024*
- ✓ 3) **Field Inspections** and Quality Assurance – inspected 57 in-service projects with SME collaboration resulting in an enhanced NYSERDA inspection process. *Completed Dec 2024*
- ✓ 4) Field inspection summary report outlining findings and improvements. Q2 2025
- 5) State-wide Webinar for local communities. May 7, 2025
- 6) Accessing and examining Root Cause Analysis.
- 7) Compiling all preliminary Working Group findings, data, and other relevant materials and send to National Labs to review.

ENERGY STORAGE FIRE SAFETY BASICS

FIRE SAFETY

All electric infrastructure and devices have associated fire hazards

- Underwriters Laboratories (UL) has developed over 1,700 safety standards since 1903

Lithium-ion cells can experience thermal runaway

- Thermal runaway
 - Cell generates heat faster than heat leaves the cell
 - This causes an increase in temperature which can damage the battery and cause fire



There are proactive and reactive measures to address thermal runaway

- Cell quality
- Gas detection
- Fire suppression

CODES AND 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 and inform installations



- **International Fire Code (IFC)** Chapter 1207, Energy Storage Systems



- **NFPA 12** – Standard on CO₂ 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



2020 FIRE CODE: LARGE SCALE FIRE TEST (UL 9540A)



UL 9540A

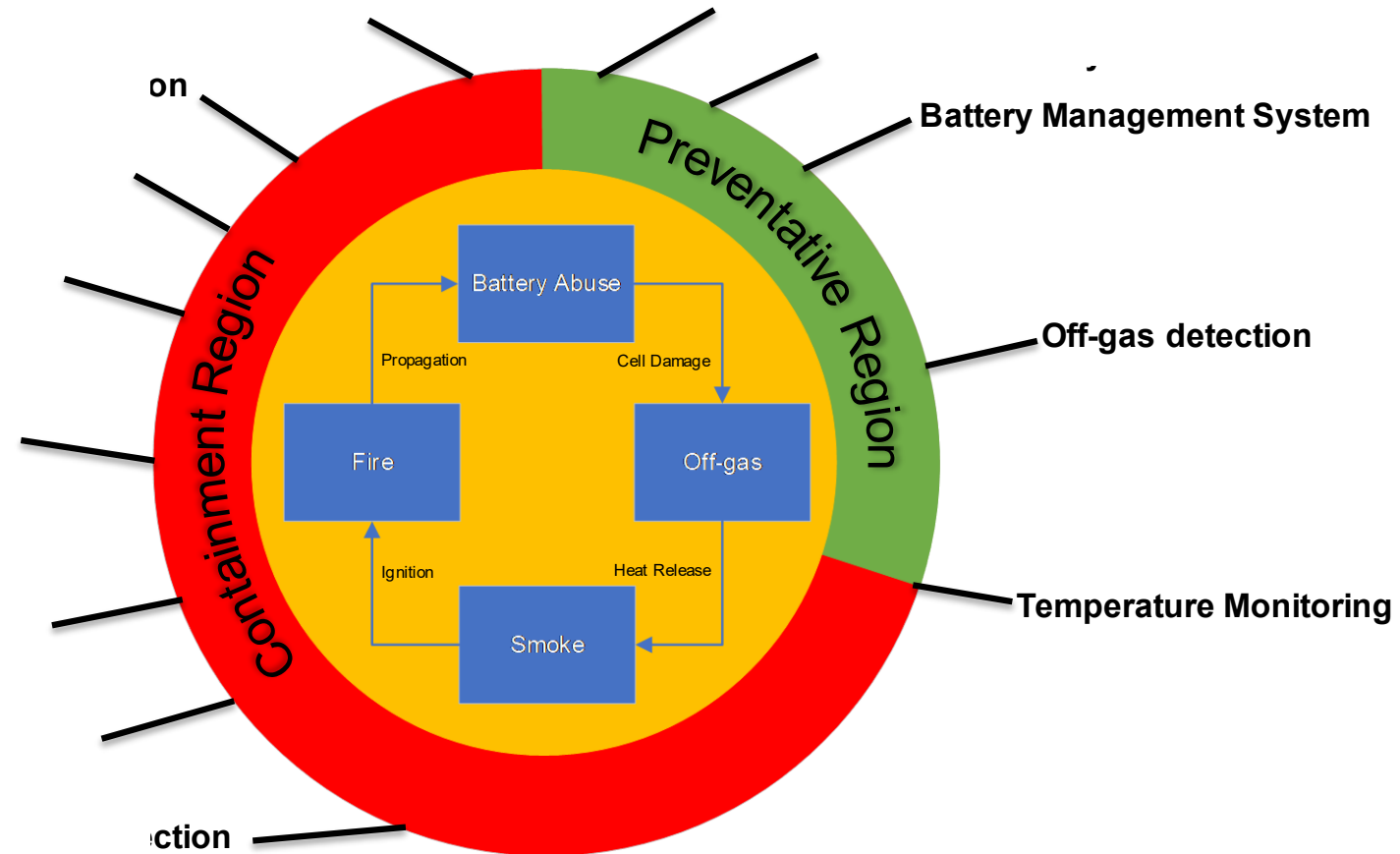
What is UL 9540A?

- A performance test method (**not** a certification program) to evaluate fire characteristics of a BESS that undergoes thermal runaway
- Data can inform product design for hazard mitigation mechanisms
- Data can inform installation parameters (separation distances, ventilation requirements, etc.)
- UL 9540A test is designed to provide product level data to inform code official decisions

What products utilize UL 9450A?

- It is required by the Fire Code (600kWh or greater)
- May be used for fire code official to approve exceptions to certain requirements

PROTECTION METHODS FOR STAGES OF THERMAL RUNAWAY



FIRE CODE AND LOCAL GOVERNMENTS: DISCRETIONARY PROTECTIONS FOR CODE ENFORCEMENT PERSONNEL

CURRENT REGULATIONS ARE SUFFICIENT AND UP-TO-DATE

Current regulations are based on 2021 International Fire Code (IFC).

- **These codes contain mature regulations and need to be adequately enforced by AHJs to be effective.**
- International Code Council updates typically happen in triennial cycles.
- NYS Code Council currently working to modify and adopt 2024 IFC.

Fire Safety Working Group recommendations align to the extent possible with '24 IFC and '23 NFPA 855.

- NYS Code Council is considering very few recommendations for inclusion that go beyond those national standards.

PEER REVIEWS

Current 2020 Fire Code Sec 1206.8

- **When required by the AHJ**, the BESS owner is responsible for retaining and furnishing the services of a registered design professional or special expert to perform as a peer reviewer.
 - The costs of the services shall be borne by the BESS owner.
- If a design professional is not required for scope of work, an approved special expert may be employed by the owner as the person in responsible charge of the limited or focused activity.
 - The scope of work of a special expert shall be limited to the area of expertise as demonstrated in the documentation submitted to the fire code official for review and approval.
- Special experts are those individuals who possess the following qualifications:
 - Has credentials of education and experience in an area of practice that is needed to evaluate risks and safe operations associated with the design, operation and special hazards of the BESS.
 - Licensing or registration, when required by any other applicable statute, regulation, or local law or ordinance



FSWG Recommendation

- **Require** industry-funded independent peer reviews for **all** projects.
- Local AHJs often lack the resources to interpret critical BESS permitting documents, particularly the UL 9540A report.
- This gap in AHJ resources has led to incomplete or inadequate applications in which the requirements of FCNYS 1206 are not sufficiently met.
- “Peer reviews” by experts in the field can assist local AHJs in their review and understanding of BESS permit applications and their compliance with existing Fire Code requirements.
- WG recommends that peer reviews be required for all BESS installations exceeding energy capacity thresholds per FCNYS Table 1206.1 to ensure proper compliance and oversight for upcoming projects.

AHJs currently have authority to require peer review.

COMMISSIONING PLAN

Current 2020 Fire Code

- Critical component of Fire Code to enforce
- Outlines commissioning activities to be conducted prior to system being placed in service
 - Installed according to plan and manufacturer's specs
 - Testing that will take place on all components
 - Training plan for facility and operating staff
 - **Identifies personnel responsible for responding to incidents**
- Plan must be approved prior to initiating
- Report approved prior to final inspection
- Includes a decommissioning plan and operation and maintenance documentation



FIRE MITIGATION PERSONNEL

Current 2020 Fire Code 1206.7.1

- **Where required by the AHJ**, BESS owner shall mitigate the hazard or remove damaged equipment from the premises to a safe location.
- BESS owner shall dispatch fire mitigation personnel to respond to possible ignition or re-ignition of a damaged BESS and remain on duty after the fire department leaves the premise until the damaged energy storage equipment is removed from the premises.
- On-duty fire mitigation personnel shall have the following responsibilities:
 - Fire watch
 - Notify FD if a fire occurs
 - Maintain until decommissioning is finished
 - Evacuate building if needed





FSWG Recommendation

- **Require that qualified personnel are available for dispatch within 15 minutes and able to arrive on scene within four hours to provide support to local emergency responders.**
- Section 1207.1.8.1 of the upcoming 2024 IFC requires that, where in the opinion of the fire code official it is essential that trained personnel be on-site, these personnel be dispatched within 15 minutes. The WG recommends that this is required for all projects—not only where deemed essential by the fire code official—and that these fire mitigation personnel are able to arrive on scene within four hours to provide expert guidance to local first responders.
- One way to address this recommendation may be to adopt a certification program similar to FDNY’s B28 Certificate of Fitness. Exploring other approaches beyond code changes (e.g. legislation) may also help address these concerns effectively.
- The WG also recommends that the Fire Code require a qualified person knowledgeable about the project and associated hazards be immediately available via phone. Additional information on this recommendation is in the “Systems Monitoring” recommendation below.

AHJs currently have authority to require fire mitigation personnel.



FSWG Recommendation to current code: 1206.11.8

Extend safety signage requirements beyond the BESS unit to include perimeter fences or security barriers and include a map of the site, BESS enclosures, and associated equipment.

- The WG recommends the FCNYS directly include signage requirements and/or applicable NEC references for grid-interactive BESS operating in parallel with other power generating sources.
 - The FCNYS requires compliance with all applicable NEC signage requirements.
- Update the Fire Code to require clear and apparent identification of explosion control panels.
- It is critical this information be accessible outside the project fence line for the health and safety of first responders.
- All relevant hazard warnings indicated on signage or maps should identify and display isolation distances response personnel should maintain from BESS involved in fire or where there may be a risk of explosion or deflagration.

Local governments can make enhanced signage a requirement for Site Plan Review in the interim period before the next Uniform Code update.

EMERGENCY RESPONSE PLANS & REGULAR FIRE DEPARTMENT TRAINING



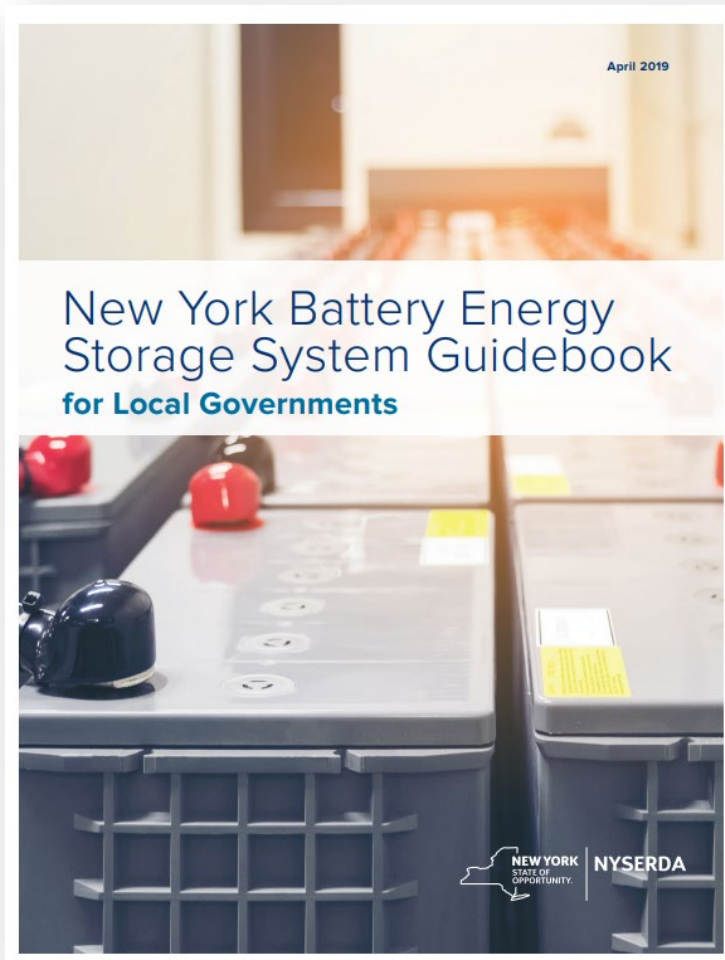
FSWG Recommendation

- Include a requirement for an Emergency Response Plan (ERP) and annual local first responder training for every BESS installation.
- Existing standards such as fire safety plans in FCNYS Section 403 and 2023 NFPA 855 Section 4.3.2.1 address emergency operations for facility personnel, these standards are not specifically written for first responders
- There should be a requirement for emergency response protocols specifically addressing the needs of first responders in the event of a fire, like in 2023 NFPA 855 Appendix G
- WG recommends that the FCNYS grant the AHJ the flexibility to determine the most suitable presentation of the ERP based on local fire department needs
- The WG also recommends requiring site-specific training to be provided for local fire departments to familiarize them with the project, hazards associated with BESS, and procedures outlined in the ERP

Local governments can make emergency response plans/training a requirement for Site Plan Review in the interim period before the next Uniform Code update.

NYSERDA is requiring this through incentive program rules.

BATTERY ENERGY STORAGE GUIDEBOOK FOR LOCAL GOVERNMENTS



Chapter 1

Battery Energy Storage Model Law

Chapter 2

Battery Energy Storage Model Permit

Chapter 3

Battery Energy Storage Inspection Checklist

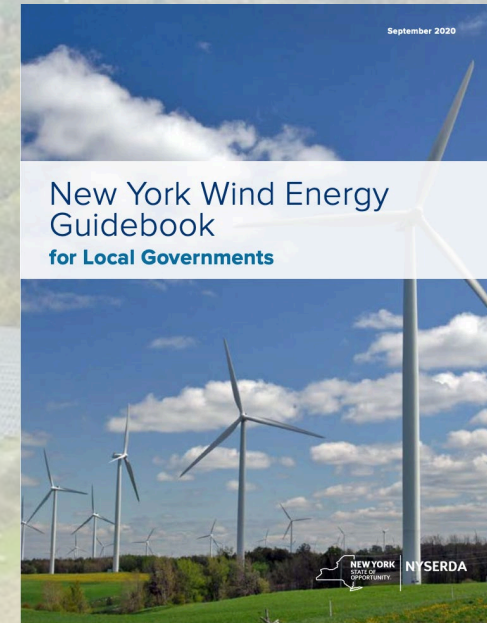
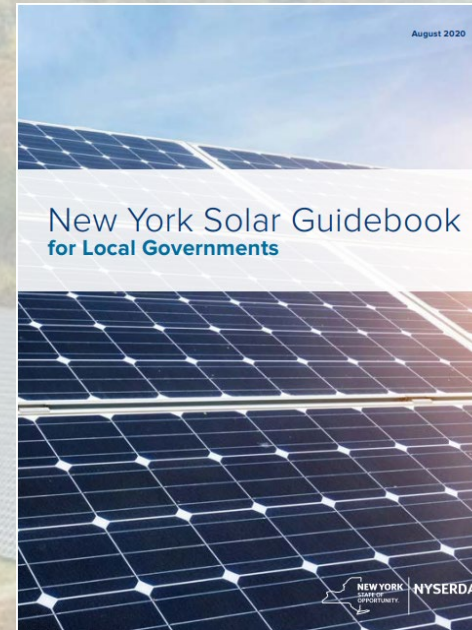
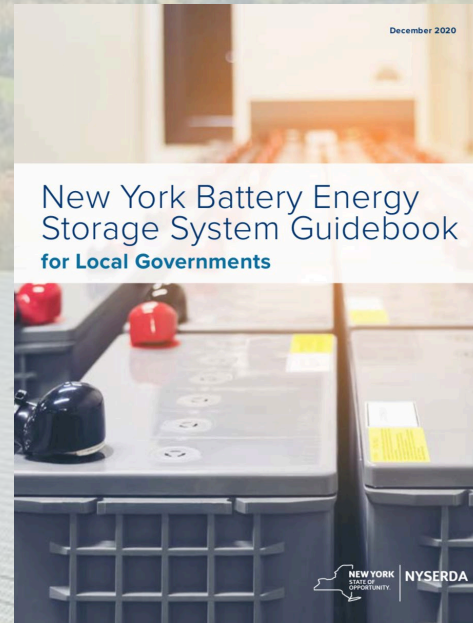
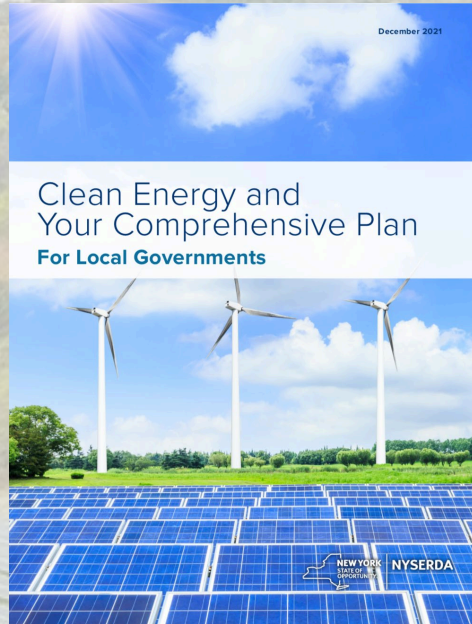
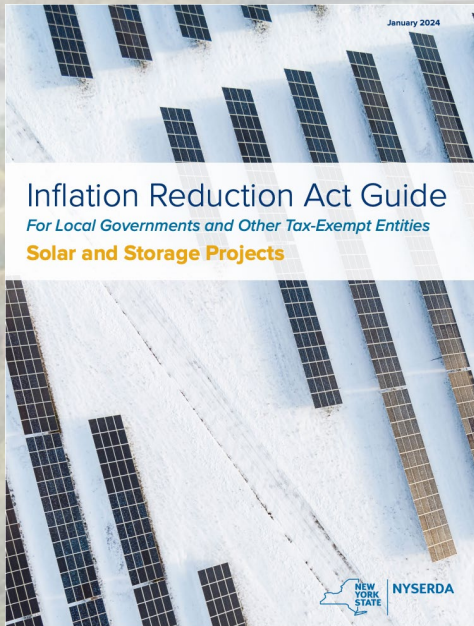
Chapter 4

2020 New York State Uniform Code

Chapter 5

Siting Battery Energy Storage Systems to the 2020 Fire Code of New York State

Resources and Q&A



Clean Energy Siting Team:
www.nyserda.ny.gov/Siting

ENERGY STORAGE RESOURCES

Inter-Agency Fire Safety Working Group Resources:

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

OFPC Resources:

- [BESS Fire Service Response Guide](#)
- [Lithium-ion Battery Awareness course](#) (DHSES Learning Management)

Clean Energy Siting Resources:

- [Energy Storage Guidebook for Local Governments](#)
- [Energy Storage Trainings for Local Governments](#)



Agrivoltaics Assistance/ Tools

- > [AgriSolar Clearinghouse](#)
- > NYSERDA: [Solar Installations on Ag Lands](#)
- > Smart Solar Siting for New England: [Policy Strategies for Farmland Protection American Farmland Trust \(2020\)](#)
- > Solar Energy Industries Association (SEIA) [Solar and Agricultural Land Use](#) (2019)
- > Scenic Hudson (2020) [Solar Ready, Climate Resilient: Best Practices and Recommendations for Solar Zoning in the Hudson Valley](#)
- > Solar Energy Technologies Office, DOE Office of Energy Efficiency & Renewable Energy, [Farmer's Guide to Going Solar](#)
- > U.S. Department of Agriculture (2020) [Farmland Solar Policy Design Toolkit](#)
- > InSPIRE [Low-Impact Solar Development Strategies Guidebook](#)

General Resources

Comprehensive Planning:

- NYSDOS Division of Local Government Services:
 - [Zoning and the Comprehensive Plan](#)
 - [Guide to Planning and Zoning Laws of New York State](#)
 - Legal Memo: [“Defining a Community Through the Plan”](#)
- Syracuse University: [NYS Comprehensive Plan Development](#)

Clean Energy:

- [NYSERDA](#): Solar Guidebook, Energy Storage Guidebook, Wind Energy Guidebook, Clean Energy and Your Comprehensive Plan, IRA Funding Guidebook
- American Planning Association:
 - [Sustaining Places: Best Practices for Comprehensive Plans](#)
 - [Solar Energy, Knowledgebase Collection](#)
- NYS Climate Smart Communities: [Comprehensive Plan with Sustainability Elements](#)

General Resources

Funding and Technical Assistance:

- Local, County, and Regional Planning Agencies
- NYS Resources/Programs:
 - [NYS Consolidated Funding Application](#)
 - [Climate Smart Communities](#) Grant Programs
 - NYS Dept. of Ag and Markets:
 - [Farmland Protection Planning Grants Program](#)
 - NYS Dept. of State:
 - Office of Planning and Development:
[Smart Growth Comprehensive Planning Grant Program](#)
 - Division of Local Government Services:
[Local Government Efficiency Program](#)



To access resources, ask questions, or
request technical assistance, please reach out to
cleanenergyhelp@nyserda.ny.gov