

Clean Energy & Your Community: Solar Energy Regulations



NYSERDA

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Agenda:

- **Introduction to: Solar, NYS Goals, NYSERDA Programs**
- **Zoning and Permitting for Solar**
- **Q&A**



Brief Intro: Solar Energy Systems

- **Solar Photovoltaics (PV) vs. Concentrated Solar Power (CSP) vs. Solar Thermal**

- **Types of Solar PV installations:**

- Residential
- Non-Residential
>Community Solar
- Utility-Scale



“Behind the Meter”
Rooftop or Ground-Mounted
aka “Distributed”

“Front of the Meter”
Ground-Mounted
aka “Large-Scale Solar”



- **Ground-Mounted Solar**

- 5-7 acres per MW
- 100-200 homes per MW



Brief Intro: Solar Energy Systems

Land-Use Considerations for Clean Energy Systems:

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



NYS Clean Energy Goals

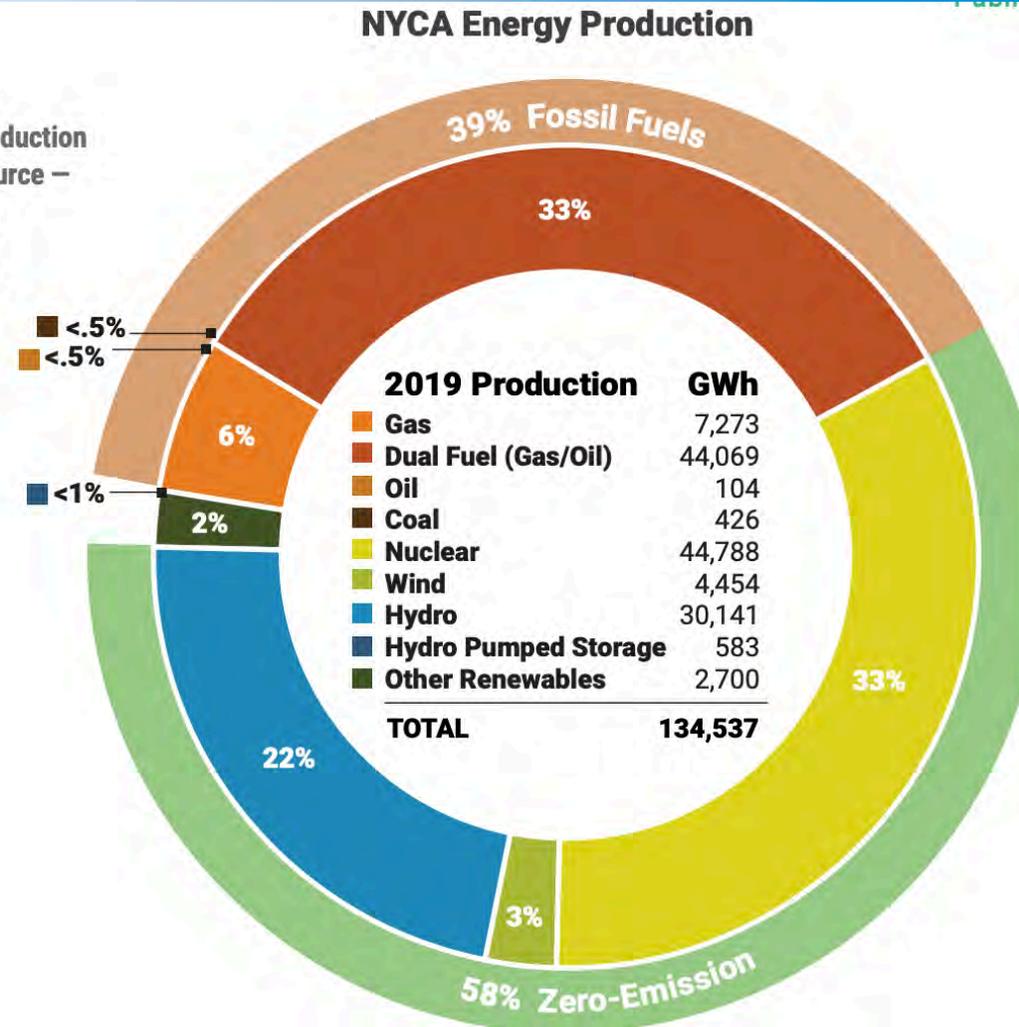
Economy-Wide Goals:

- 70% Renewable Electricity by 2030
 - Current: ~28%
- 100% Emissions-Free Grid by 2040

Technology-Specific Goals:

- 6,000 MW Distributed Solar by 2025
 - Current: ~3,000 MW
- 1,500 MW Energy Storage by 2025
- 3,000 MW Energy Storage by 2030
 - Current: ~100 MW
- 9,000 MW Offshore Wind by 2035
 - Current: 0 MW

Figure 14:
Energy Production
by Fuel Source –
Statewide,
Upstate &
Downstate
New York:
2019



NY-Sun Program

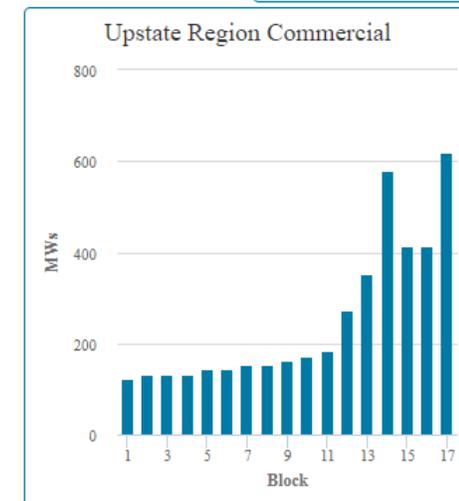
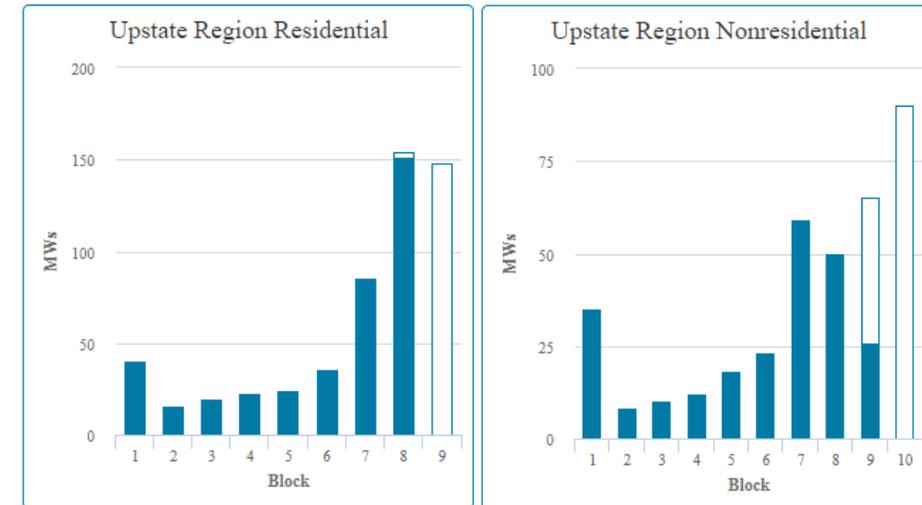
NYSERDA's NY-Sun Program:

- **Provides incentives for distributed solar:**

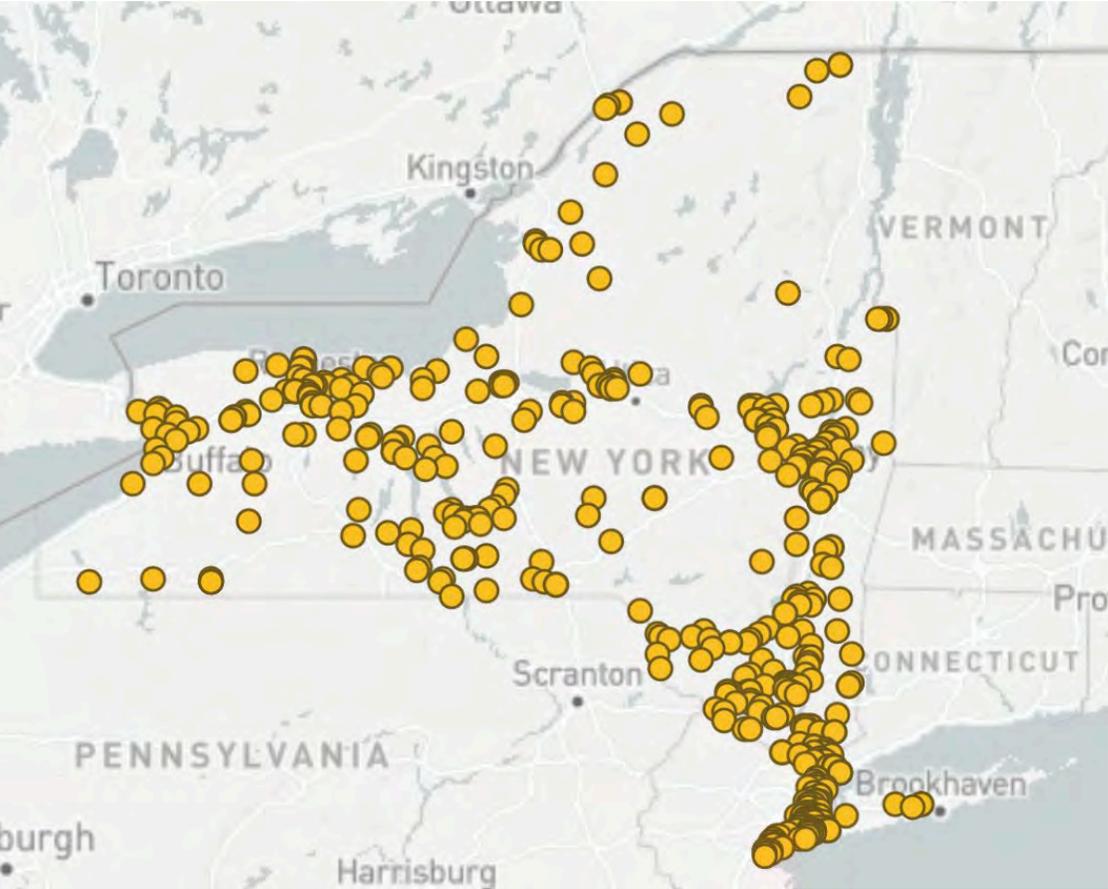
- Residential
- Nonresidential
- Commercial/Industrial

- **Adders:**

- Affordable Solar
- Multifamily Affordable Housing
- Community Adder
- LMI
- Brownfield/Landfill
- Solar + Storage

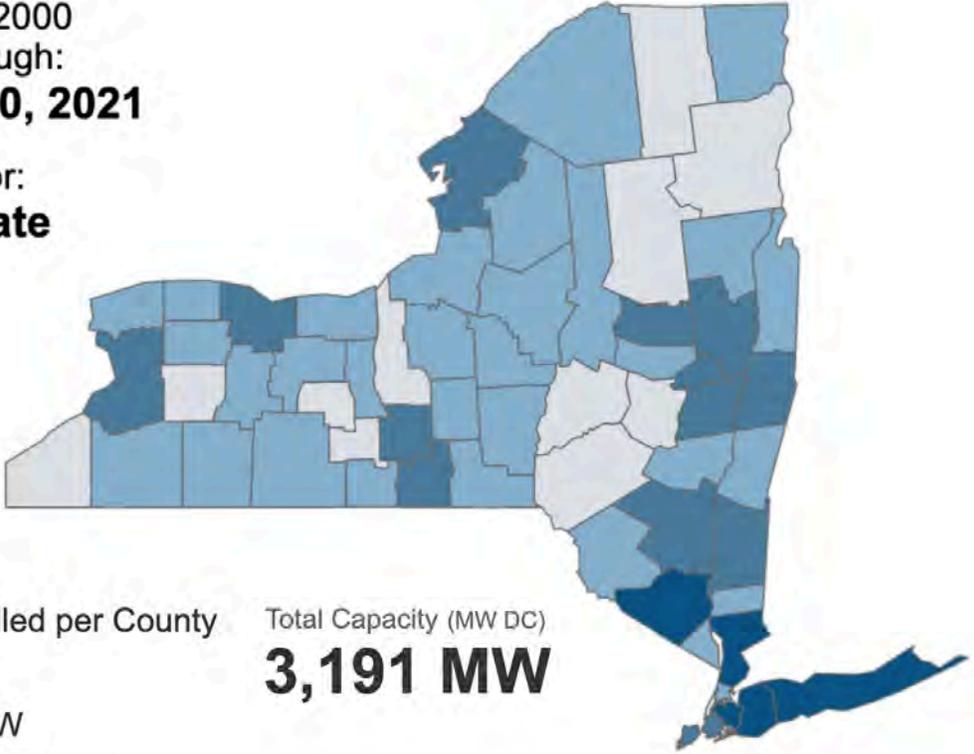


Distributed Solar Deployment To-Date



Data beginning 2000
and current through:
September 30, 2021

Showing Data for:
New York State



Megawatts installed per County

- 0 to 10 MW
- >10 to 50 MW
- >50 to 100 MW
- >100 MW

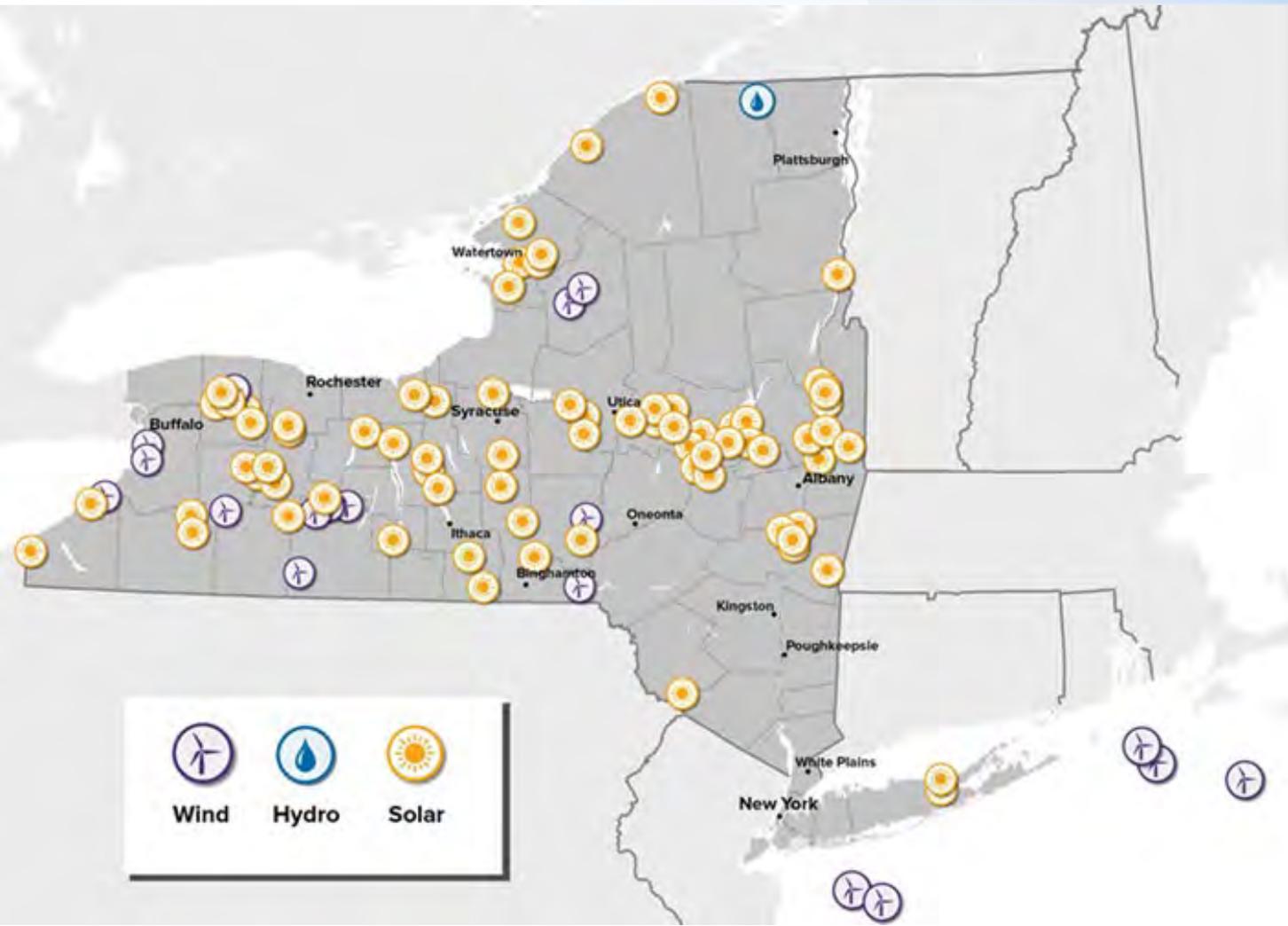
Total Capacity (MW DC)

3,191 MW

Number of Projects

150,276

Solicitations for LSR Projects



- Solicitations issued annually since 2017
- Total of **22** awarded projects for 2020 solicitation:
 - **21** solar projects (**2** including co-located energy storage)
 - **1** hydro-electric facility re-powering

Zoning and Permitting for Solar

Guidebooks for Local Governments



August 2020

New York Solar Guidebook
for Local Governments



NEW YORK STATE OF OPPORTUNITY | NYISERDA



April 2019

New York Battery Energy
Storage System Guidebook
for Local Governments



NEW YORK STATE OF OPPORTUNITY | NYISERDA



September 2020

New York Wind Energy
Guidebook
for Local Governments



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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 [ORES])**
- **Projects between 20 – 25 MW: May opt-in to State-level siting process through ORES**



Model Solar Energy Law

Tier 1



Rooftop Installations

Tier 2



Small Ground-Mount Installations

Tier 3



Larger than Tiers 1-2

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: 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].

Legend

Substations

Substations Transmission Lines



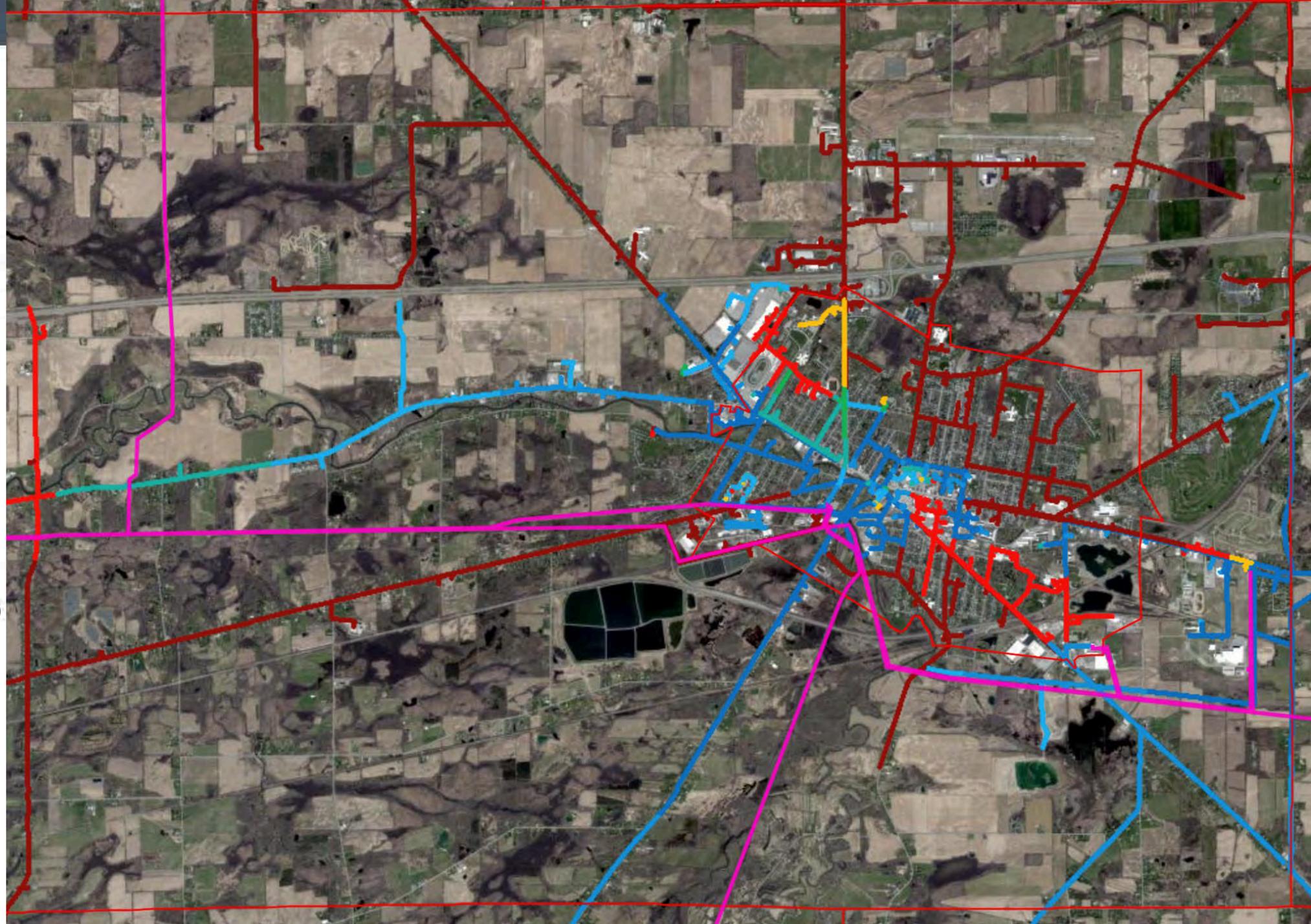
Hosting Capacity

Feeder Level Data 3 Phase (MW)

- > 5.0 MW
- 3.0 - 4.99 MW
- 2.0 - 2.99 MW
- 1.50 - 1.99 MW
- 1.0 - 1.49 MW
- .50 - 0.99 MW
- 0.30 - 0.49 MW
- 0.0 - .29 MW

Substation Level Data 3 Phase (MW)

- > 5.0 MW
- 3.0 - 4.99 MW
- 2.0 - 2.99 MW
- 1.50 - 1.99 MW
- 1.0 - 1.49 MW
- .50 - 0.99 MW
- 0.30 - 0.49 MW
- 0.0 - .29 MW



Key to Features

Zoning District

- Agricultural - Residential (Ch. 235-25)
- Residential (Ch. 235-26)
- Hamlet Residential (Ch. 235-26A)
- Commercial (Ch. 235-27)
- Hamlet Commercial (Ch. 235-27A)
- Industrial (Ch. 235-28)
- Industrial Park (Ch. 235-29)
- Planned Business Development (Ch. 235-31A)
- Planned Unit Development (Ch. 235-31)
- Mobile Home Park (Ch. 235-63)

Road Jurisdiction

- Interstate Highway
- State Routes
- County Highway
- Town Road

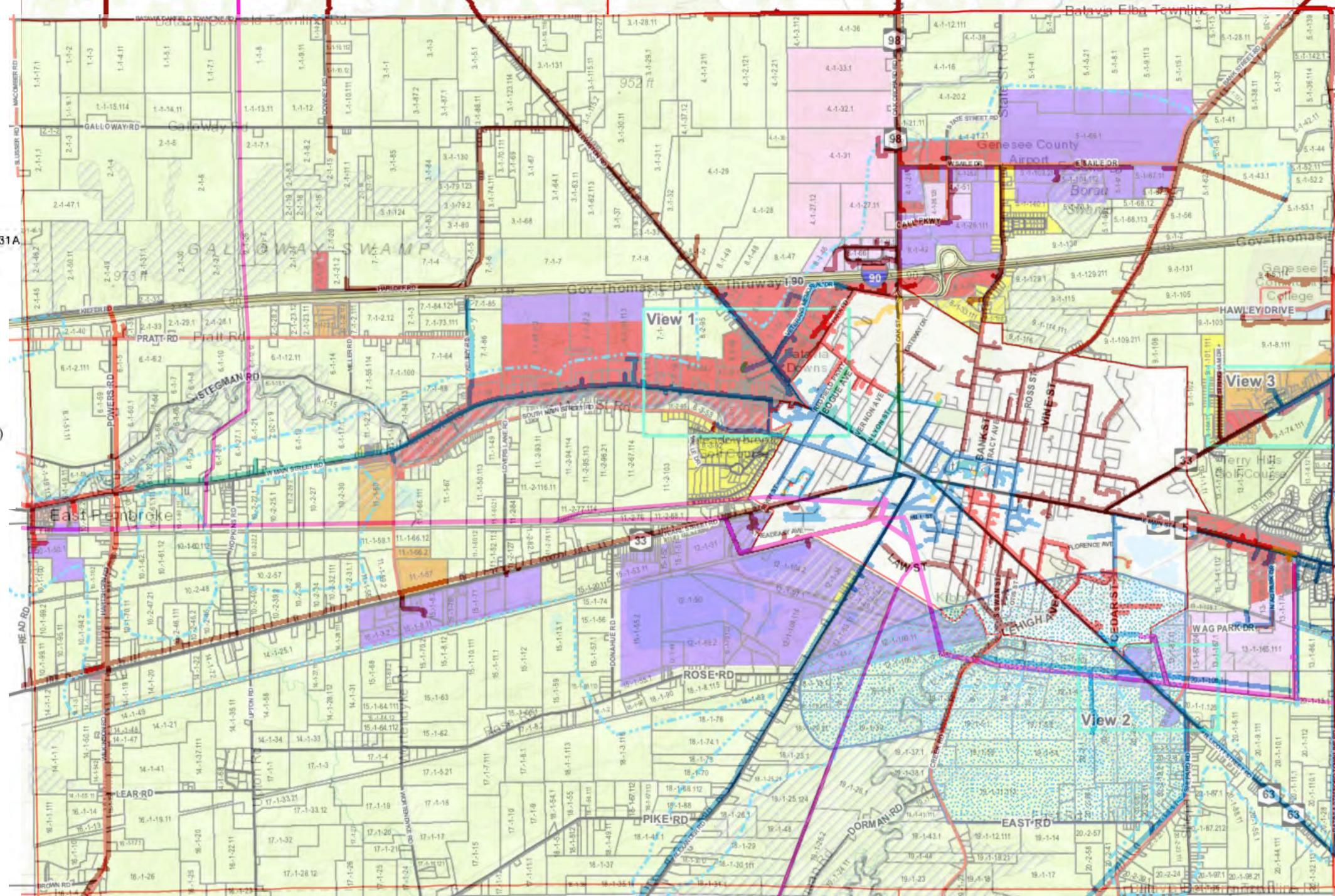
- Wellhead Protection Overlay (Ch. 235-32)
- Flood Plain Overlay (Ch. 112)
- 2015 Tax Parcels
- Genesee County Smart Growth Areas

- Substations
- Transmission Lines

Hosting Capacity

Feeder Level Data 3 Phase (MW)

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- 1.0 - 1.49 MW
- .50 - 0.99 MW
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- 0.0 - .29 MW



Permitting Tier 3 Systems:

- Model Law suggests that Tier 3 systems be permitted by Special Use Permit, subject to **Site Plan Review**
 - Section 8(I): Establish requirements for Site Plan Application + Review
 - Proposed landscape changes, grading, vegetation, screening
 - Property Operations & Maintenance Plans: should describe year-round upkeep, including vegetative/visual
 - Erosion, Sediment Control, Stormwater Management Plans
 - Comprehensive electrical diagram



Permitting Tier 3 Systems (cont.)

- Model Law suggests that Tier 3 systems be permitted by **Special Use Permit**, subject to Site Plan Review
 - Section 8(J): Establish standards for Special Use Permit approval
 - Bulk Regulations (utilize underlying standards or establish new, solar-specific standards):
 - Minimum Lot size
 - Setbacks
 - Height
 - Lot Coverage
 - Screening & Visibility (more to come)
 - Agricultural Resources (more to come)



Permitting Tier 3 Systems (cont.)

Section 8(J): Special Use Permit standards

- Utilize underlying zoning requirements *and/or* establish district-specific requirements

Table 1: Lot Size Requirements

Zoning District	Tier 3 Solar Energy Systems
Residential Low Density	≥ 2 acres
Residential High Density	—
Commercial / Business	≥ 5 acres
Light Industrial	N/A
Heavy Industrial	N/A
Agricultural / Residential	≥ 5 acres

Table 2: Parcel Line Setback Requirements

Zoning District	Tier 3 Ground-Mounted		
	Front	Side	Rear
Residential Low Density	100'	100'	100'
Residential High Density	—	—	—
Commercial / Business	30'	15'	25'
Light Industrial	30'	15'	25'
Heavy Industrial	30'	15'	25'
Agricultural / Residential	30'	15'	25'

Table 3: Height Requirements

Zoning District	Tier 1 Roof-Mounted	Tier 2	Tier 3
Residential Low Density	2' above roof	10'	15'
Residential High Density	2' above roof	10'	—
Commercial / Business	4' above roof	15'	20'
Light Industrial	4' above roof	15'	20'
Heavy Industrial	4' above roof	15'	20'
Agricultural / Residential	2' above roof	15'	20'

Permitting Tier 3 Systems (cont.)

Section 8(J): Special Use Permit standards

- Screening and visibility:
 - Screening & Visibility – Model Law ensures that screening and visibility requirements are aligned with SEQRA requirements for projects above and below 10-acre threshold (Type I Action threshold)
 - For larger projects, law requires a more robust visual assessment/study, as well as a comprehensive year-round screening & landscaping plan.



Permitting Tier 3 Systems (cont.)

Section 8(J): Special Use Permit standards

- Agricultural Resources:
 - Strategies to implement acreage and/or lot coverage restrictions for certain priority soils
 - Impact mitigation strategies, such as seeding the parcel with pollinator-friendly and/or native vegetation
 - Requires applicants to propose a vegetation management plan to ensure implementation and upkeep of vegetation promoting biodiversity or other benefits
 - Require adherence to NYSAGM guidelines
 - Could also encourage applicants to utilize site-appropriate solar co-location/continued agricultural use

7) Agricultural Resources. For projects located on agricultural lands:

1) Any Tier 3 Solar Energy System located on the areas that consist of Prime Farmland or Farmland of Statewide Importance shall not exceed [50] % of the area of Prime Farmland or Farmland of Statewide Importance on the parcel.

OR

Any Tier 3 Solar Energy System located on the areas that consist of Prime Farmland or Farmland of Statewide Importance shall not exceed [50] % of the entire lot.

AND/OR

Tier 3 Solar Energy Systems on Prime Farmland or Farmland of Statewide Importance shall be required to seed [20] % of the total surface area of all solar panels on the lot with native perennial vegetation designed to attract pollinators.

2) To the maximum extent practicable, Tier 3 Solar Energy Systems located on Prime Farmland shall be constructed in accordance with the construction requirements of the New York State Department of Agriculture and Markets.

Commentary: For more details, please refer to NYS Department of Agriculture and Market's Guidelines for Agricultural Mitigation for Solar Energy Projects, available at www.agriculture.ny.gov/api/agservices/SolarEnergyGuidelines.pdf.

3) Tier 3 Solar Energy System owners shall develop, implement, and maintain native vegetation to the extent practicable pursuant to a vegetation management plan by providing native perennial vegetation and foraging habitat beneficial to game birds, songbirds, and pollinators. To the extent practicable, when establishing perennial vegetation and beneficial foraging habitat, the owners shall use native plant species and seed mixes.

Permitting Tier 3 Systems (cont.)

Section 8(H): Decommissioning

- Clarify the timeframes/inactivity which might trigger decommissioning
- Require a robust decommissioning plan, outlining the costs, timelines, and activities involved in decommissioning a system
- Require a financial surety to ensure decommissioning, subject to the municipality's liking, ensuring:
 - It will cover the full cost of system removal, not including salvage values
 - It is revisited on a regular basis to account for inflation/changing costs
 - It will cover the municipality in the event of project sale, insolvency, or other circumstances whereby the applicant is unable to remove the system

Questions?

Helpful links:

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

For additional assistance, reach out to cleanenergyhelp@nyserda.ny.gov

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