Central New York Regional Planning & Development Board

Municipal Regulation of Solar Energy Systems

Cayuga County Planning Board Training Series

July 20, 2016

Chris Carrick, Energy Program Manager

Central New York Regional Planning & Development Board

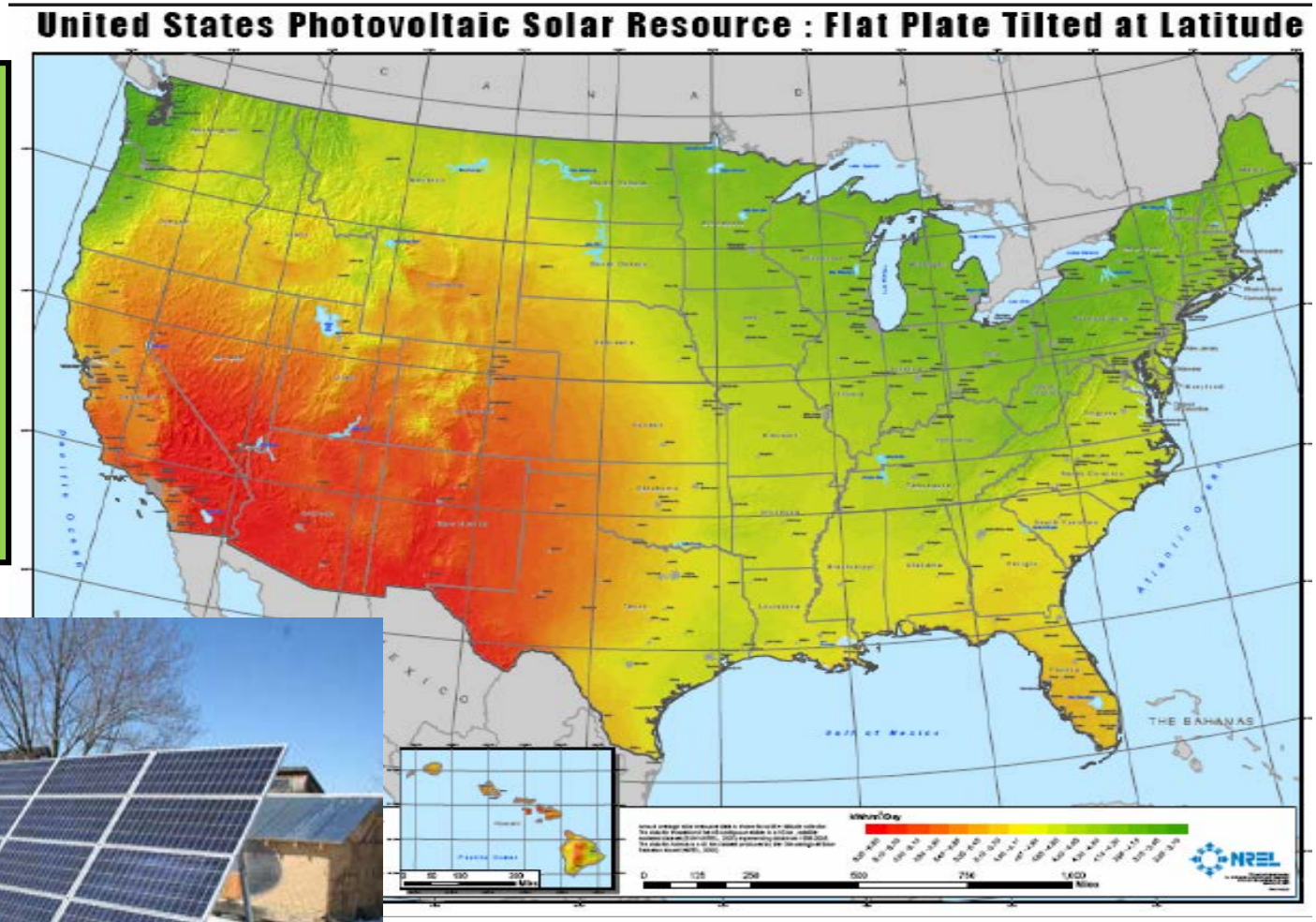
- Public agency established in 1966 by Cayuga, Cortland, Madison, Onondaga, and Oswego Counties
- Provides a range of services to Central New York communities with a focus on:
  - Community Development (Comprehensive Planning)
  - Economic Development
  - Environmental Management
  - Information and Research Services
  - Transportation Planning
  - **Energy Management**

Workshop Goal

To enable local governments to remove land use barriers for solar energy systems and encourage the use of solar energy through effective regulation.

Solar Power Resource in NY

- It works in Germany's climate!
- Policy, incentives, and cost of electricity much more important



NY-Sun Initiative

- Significantly expand installed solar capacity
- Attract private investment
- Enable sustainable development of a robust industry
- Create well-paying skilled jobs
- Improve the reliability

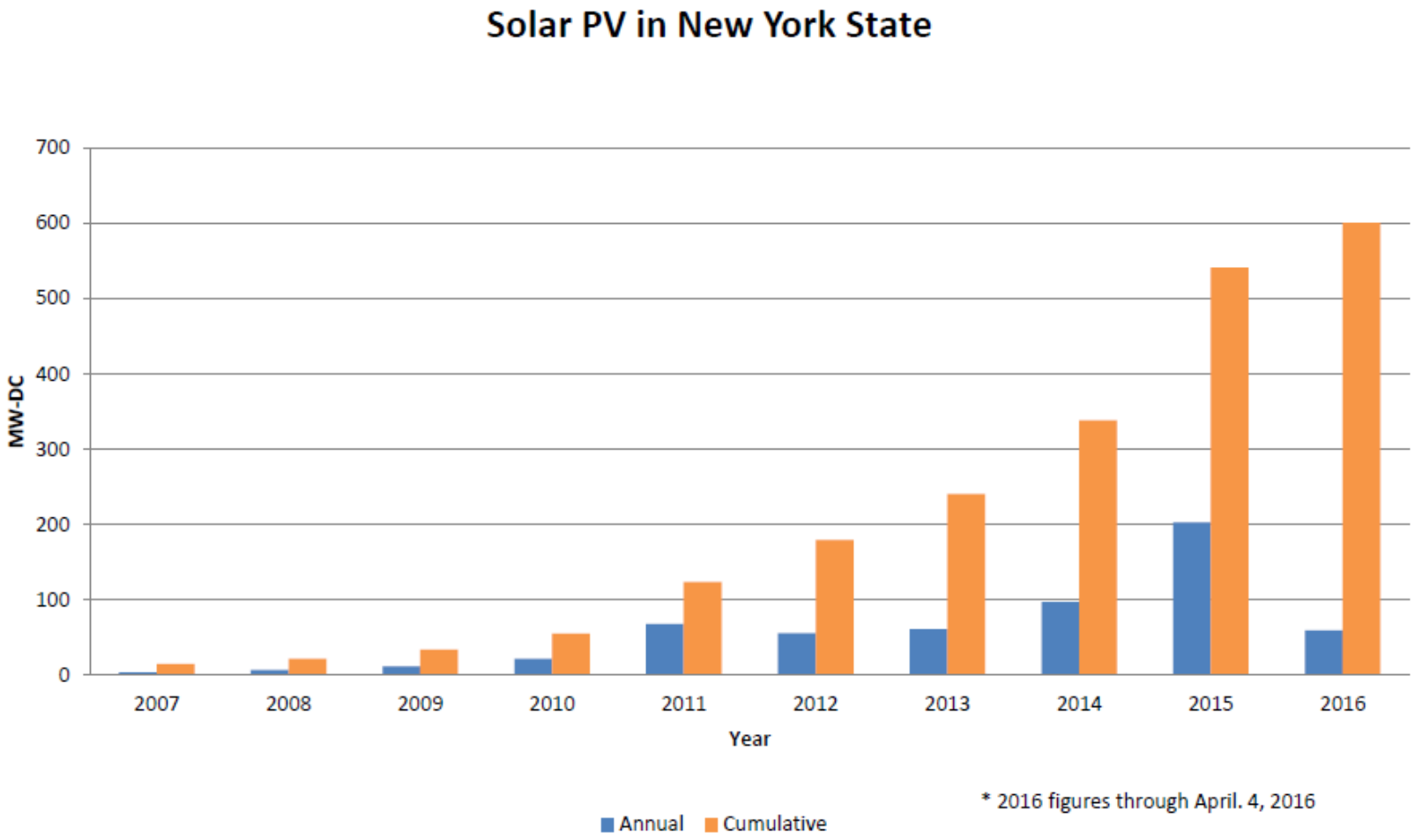
Statewide Goal of 3 GW

$961 Million Total Budget

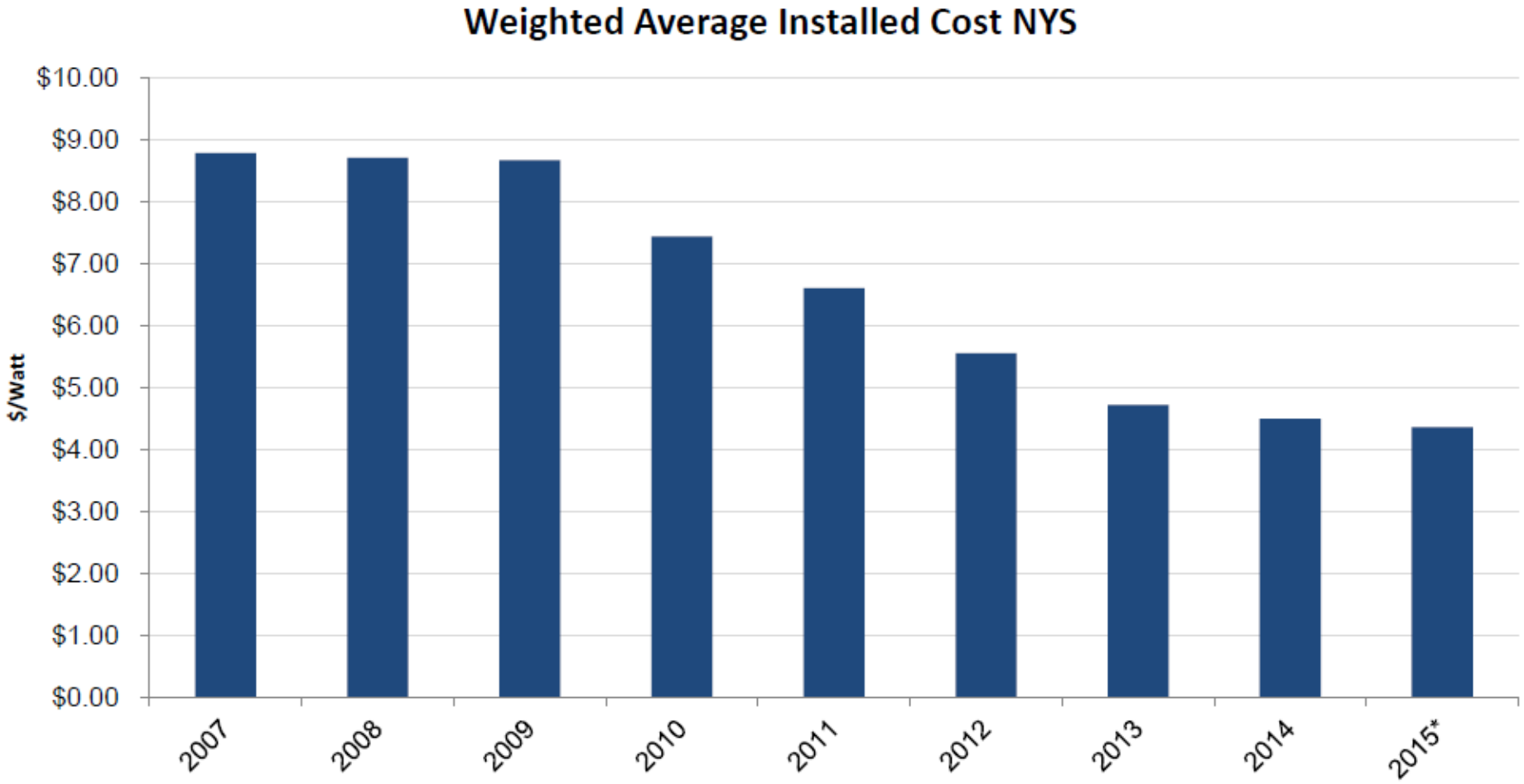
Stimulate the Market Place

Reduce Soft Costs

NY State Solar Market



NY State Solar Market



* 2015 figures through Nov. 30, 2015

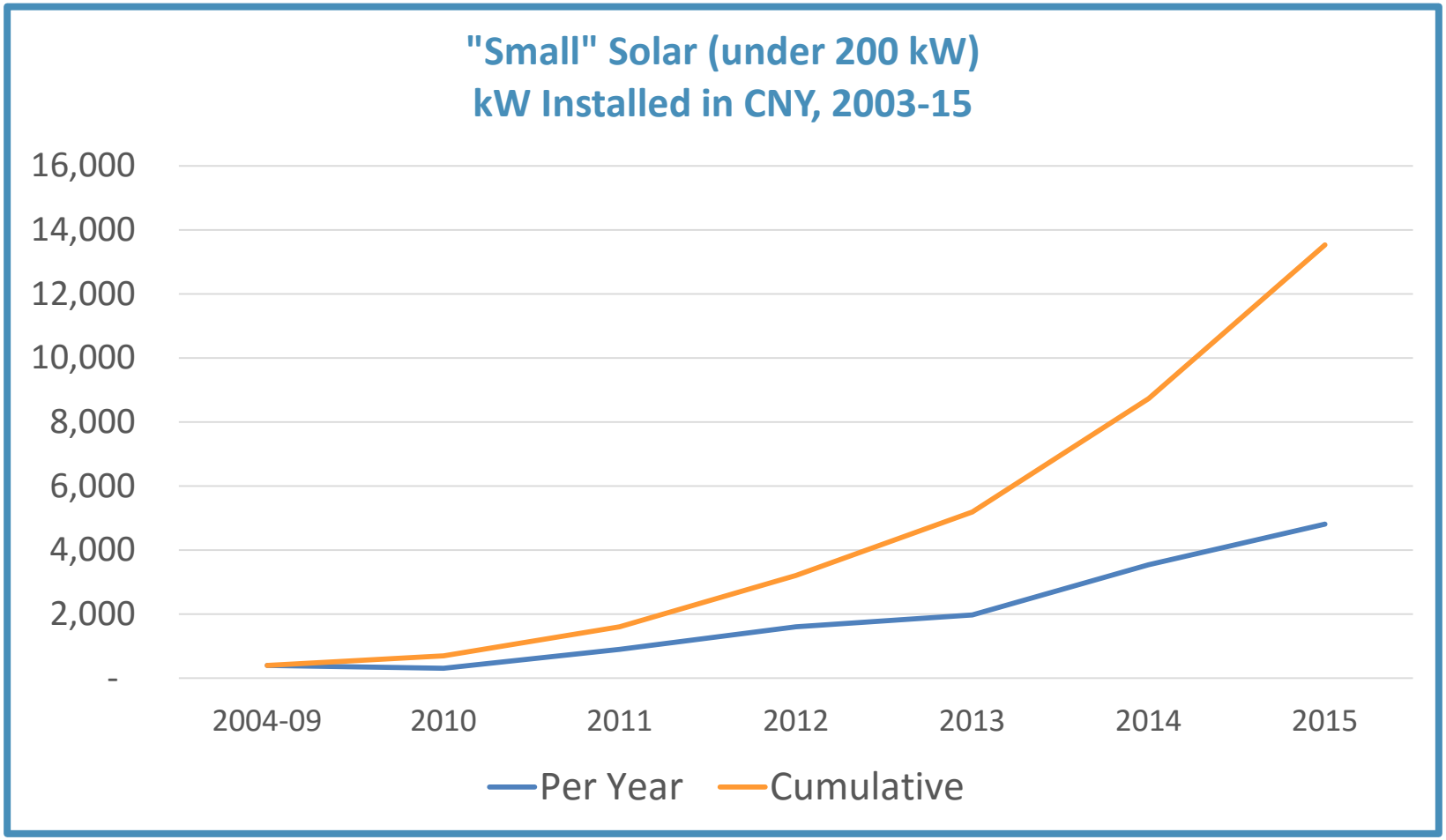
Ranking States by Annual PV Installations

	Rank			Installations (MWdc)		
State	2013	2014	2015	2013	2014	2015
California	1	1	1	2,621	3,549	3,266
North Carolina	3	2	2	335	397	1,134
Nevada	12	3	3	47	349	307
Massachusetts	4	4	4	240	317	286
New York	9	7	5	72	147	241
Arizona	2	5	6	421	247	234
Utah	30	23	7	2	14	231
Georgia	7	16	8	91	45	209
Texas	8	8	9	75	129	207
New Jersey	5	6	10	236	240	181

Source: GTM Research / SEIA U.S. Solar Market Insight *report*

Powered by SunShot
U.S. Department of Energy

Solar Power Trends in Central NY



Source: Open NY database

Solar Development in NY

- Solar PV is a key source of renewable electricity, and is an important part of the needed transition to a clean energy future
- New York has been deploying solar for over a decade, but recent cost reductions and policy incentives are driving solar to scale
- Policies like the **NY Clean Energy Standard** and the **Reforming the Energy Vision** initiative are expanding state support beyond incentives and net-metering

Solar Development in NY

- Currently, solar PV provides less than 1% of the state's electricity, but this is growing rapidly as larger facilities come online
- New York has enough sun to make solar PV work, with 2/3 of the annual solar resource of Southern California or Arizona.
- Solar is reliable, with long-term warranties on equipment and low maintenance requirements.
- Solar is efficient and safe. Equipment is rated and tested by independent parties, and the industry is regulated by the NY Public Service Commission, the NYS Uniform Code and local municipal zoning.

Source: NYSEIA

Solar Development in NY

- The intermittency of solar is manageable and presents no barrier to development in the near term. Once solar reaches 15-30% of the state's electricity supply, it can be mitigated with storage, hydro, wind and other distributed energy resources.
- The solar industry in New York employs over 8,250 people and this number continues to grow each year.
- The economics of solar makes sense for customers. Many customers are able to save 10-15% of their annual electric costs.

Source: NYSEIA

Moratorium

A moratorium on development is a local law or ordinance that suspends the right of property owners to obtain development approvals while the community takes time to consider, draft, and adopt land use plans or rules to respond to new or changing circumstances not adequately dealt with by its current laws.

DOS Guide on Moratoriums, available at:

http://www.dos.ny.gov/lg/publications/Land_Use_Moratoria.pdf

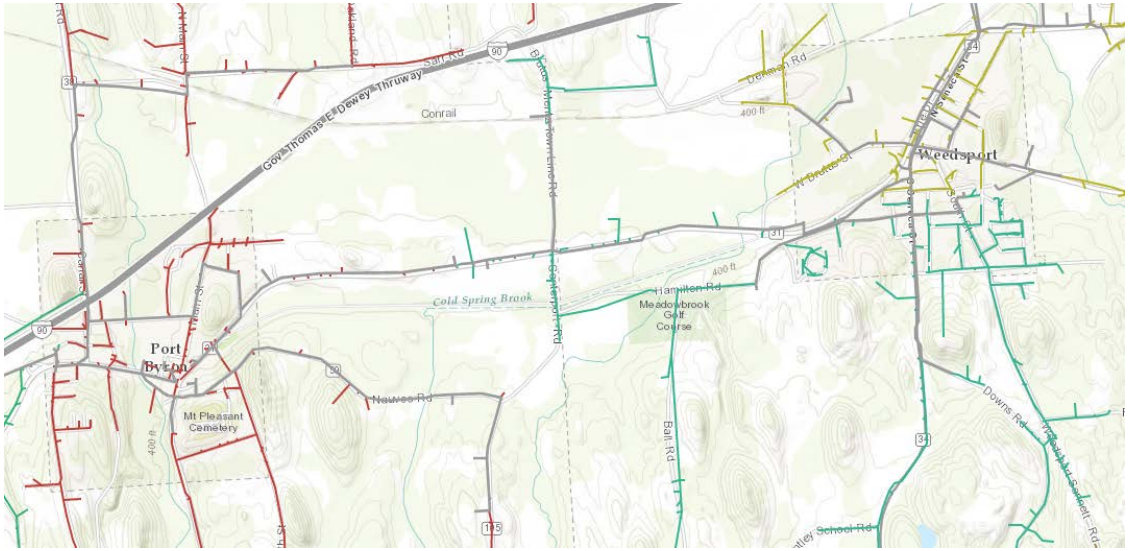
Moratorium

- When adopting a moratorium, the municipality may set forth how the situation that gave rise to the moratorium is to be dealt with. The more specific and legitimate this plan and timetable are, the more likely it is that the moratorium will be found to be reasonable.
  - What local bodies are responsible?
  - What studies are to be done?
  - What resources are being made available to complete those studies?
  - Can deadlines be established for various steps in the process?

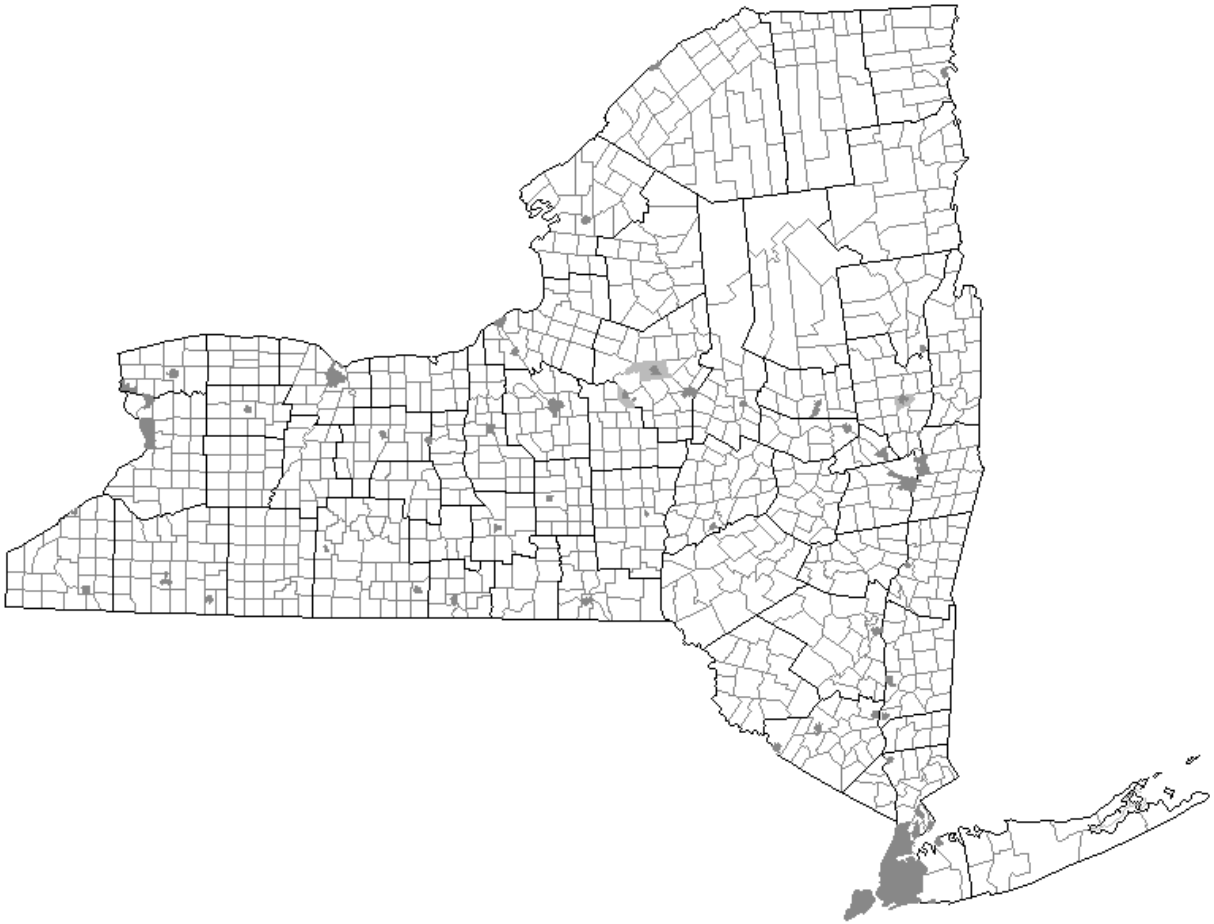
- Based on this action plan and timetable, a date can be selected for the expiration of the moratorium. A moratorium can be extended if the timetable cannot be met; however, the reasonableness of the action is enhanced by setting a date for expiration that is legitimate under the circumstances.

Scale and Pace of Development

- Near-term solar development is limited by the nature of the local utility distribution system, which provides a “speed limit.”
- The utilities have published maps that show the capacity of their distribution systems (network and radial feeders) to host solar PV and other distributed energy systems.
- Thus, municipalities are finding that there is no need to implement a moratorium as they consider policies such as zoning and property tax.



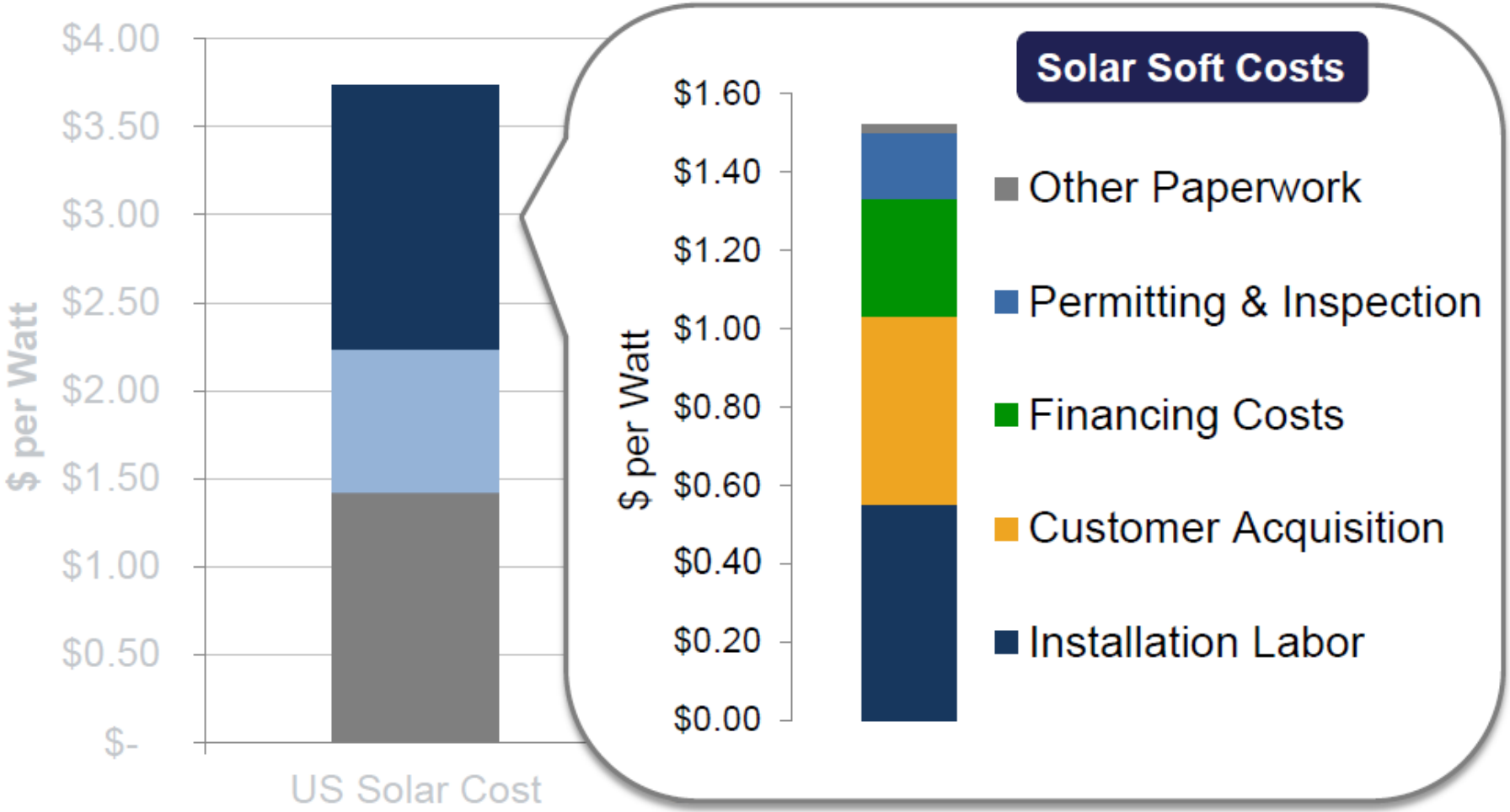
New York's Local Governments



1,550+ local jurisdictions in NY

With land use authority

US Solar Costs



How Can Municipalities Impact Soft Costs?

Hardware Costs

- Solar Panels
- Balance of System (racking, inverter, etc.)

+

Soft Costs

- Permitting and Zoning
- Installation
- Financing
- Customer Acquisition
- Maintenance

→

Total System Cost

Why Plan for Solar Now?

More solar applications likely as market improves.

Proactively prepare your permit process for increase of solar permitting applications.

- Will reduce municipal staff time and hassle
- Will increase your confidence in the permitting process
- Solar-friendly policies will encourage solar development and aid market growth

The CNY RPDB provides free technical assistance, guidance

What Are the Benefits of Solar?

- Environ. & public health benefits
- Reduced & stabilized energy costs
- Energy independence & resilience
- Econ. Development & job creation
- Value to utility
- Community pride
- Other?

What are the Impacts of Solar?

- Removal of trees and vegetation
- Loss of productive farm land
- Loss of habitat, threat to species
- Loss of open or buildable space
- Removal and restoration costs and disposal
- Stormwater and herbicide runoff
- Glare
- Noise

Techniques to Mitigate Impacts

- Siting, siting, siting
- Setbacks
- Height limits
- Screening
- Safety (fencing, signage)
- Utility interconnection
- Required studies (SEQR)
- Decommissioning/Site Restoration

Solar and Land Use

- Timing
  - Commercial-scale solar facilities (up to 2 MW or 10-12 acres) have only been built in New York since 2013, with most development starting mid-2015.
  - No utility-scale solar facilities (over 2 MW) have been built outside of Long Island and probably won't get underway until 2018 at the earliest. These facilities will probably be up to 50 MW.
- Location
  - Solar can and will continue to be located on roofs but ground-mounted facilities will become an increasingly common location.
  - 1 MW of solar requires about 5-7 acres of land, but over 60% of that land is left as open space and over 90% remains pervious.

Source: NYSEIA

Solar and Land Use

- What Land is Suitable?
  - Previously cleared or disturbed land is first preference.
  - Land currently in active use for agriculture is not being sought specifically but can be suitable based on landowner's preference, benefits, and the crop currently being produced.
  - Land that is relatively flat or gently sloping is generally most cost effective. Solar causes very little to no disruption of soil on slopes.
  - Federal or State wetlands are not suitable. Neither are lands protected for historic or archeological reasons.
  - Land with outstanding liens are not being sought.
  - For medium to large systems (200 – 2,000 kW), land should typically have 3-phase distribution lines on the road nearby the property.
  - For utility-scale facilities over 2 MW, land should have access to sub-transmission or transmission lines.

Source: NYSEIA

Solar and Land Use

- Land use is fundamentally limited by the capacity of the distribution and transmission grids, and also by local zoning.
- The **Clean Energy Standard** models 2,700 MW of behind-the-meter solar and 125 MW of utility-scale solar by 2023. This would require just 14,125 acres statewide if it were all ground-mounted, which is equal to 0.2% of the state's farm land or 0.04% of the state's total land area.
- In the very unlikely scenario that all of the state's new renewable electricity was met by solar, then 140,450 acres would be needed, which is equal to 2% of the state's farm land 0.4% of the state's total land area.

Source: NYSEIA

Solar and Land Use

- Solar facilities are typically not located in wetlands, conservation areas, or on extremely steep slopes.
- Solar facilities are generally seen as “low-impact.” They require little or no concrete, and do not create impervious surfaces with most land remaining in natural vegetation.
- Solar facilities are reviewed for – and typically found to have little or no impact on – storm water management, glare, or wildlife.

Source: NYSEIA

Solar and Land Use

- In New York and across the country, there has been no evidence of solar facilities reducing neighboring property values.
- This is most likely because these facilities:
  - Generate no on-site pollution
  - Make no discernable noise when inverters are properly placed
  - Do not have on-site lighting
  - Do not increase traffic
  - Retain most of the natural vegetation and have minimal impacts on site hydrology and storm water
  - Are relatively low-profile with 10-12’ maximum height
  - Can have additional landscaping or buffering from residential areas

Source: NYSEIA

Municipal Best Practices

Municipalities have a very important role to play in facilitating smart solar deployment to benefits residents, businesses and landowners, as well as to promote community health and prosperity.

Some key areas for municipalities are:

- Understanding the scale and pace of possible solar development, and the benefits to community members
- Zoning and permitting policy
- Property tax policy

Source: NYSEIA

Zoning and Permitting

- If you don't have solar-specific zoning, ensure that it is possible for a solar project to go through your existing site plan review or special permit process
- If you have or want to adopt solar-specific zoning,
  - Allow all scales of solar generally – residential, community/commercial, and utility
  - Allow as primary and accessory structures
  - Create at least 3 categories of facilities with different requirements for approval and possibly permitted in different zones. For example, roof-mounted facilities allowed in all zones with a permit, small and medium ground-mounted systems allowed in all zones with a permit if they meet certain requirements, and large ground-mounted facilities allowed in many zones if they meet certain requirements and successfully go through a site-plan review process.

Source: NYSEIA

Zoning and Permitting

- Set general requirements for small and large ground-mounted systems like setbacks and height maximum.
- Require additional items in site plan review process for large ground-mounted systems:
  - Consideration of vegetation removal and impervious surfaces – as is done with other development
  - Review of storm water impacts and completion of SWPP if required
  - Review of landscaping and fencing
  - Small signage with facility contact info
  - Decommissioning timeline, plan and standards
- Plan to act as lead agency for SEQR process during permitting – typically solar is an unclassified action and requires only a short form SEQR

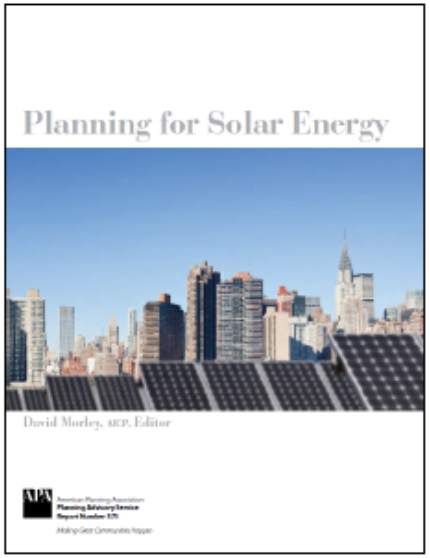
Source: NYSEIA

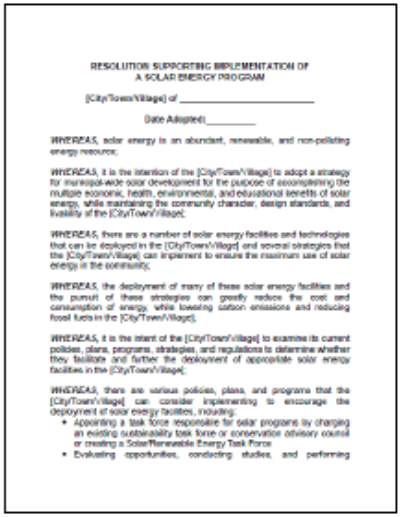
CNYRPDB Model Solar Zoning Code

1. Purpose
2. Definitions
3. Applicability
4. Permitted Locations
5. Permitted Zoning Districts
6. Design and Installation Standards
7. Setback Requirements
8. Height Restrictions
9. Screening and Visibility
10. Impervious Property Coverage Restrictions
11. Non-Conformance
12. Signage and/or Graphic Content
13. Inspection, Safety and Removal
14. Permit Requirements

Planning to Accommodate Solar

- Add Solar Energy Component to Comp Plan
- Adopt Solar Energy Policy or Plan





RESOLUTION SUPPORTING IMPLEMENTATION OF A SOLAR ENERGY PROGRAM

[City/Town/Village] of _____

Date Adopted)_____

WHEREAS, solar energy is an abundant, renewable, and non-polluting energy resource;

WHEREAS, it is the intention of the [City/Town/Village] to adopt a strategy for municipal-wide solar development for the purpose of accomplishing the multiple economic, health, environmental, and educational benefits of solar energy, while maintaining the community character, design standards, and livability of the [City/Town/Village];

WHEREAS, there are a number of solar energy facilities and technologies that can be deployed in the [City/Town/Village] and several strategies that the [City/Town/Village] can implement to ensure the maximum use of solar energy in the community;

WHEREAS, the deployment of many of these solar energy facilities and the pursuit of these strategies can greatly reduce the cost and consumption of energy, while lowering carbon emissions and reducing fossil fuels in the [City/Town/Village];

WHEREAS, it is the intent of the [City/Town/Village] to examine its current policies, plans, programs, strategies, and regulations to determine whether they facilitate and further the deployment of appropriate solar energy facilities in the [City/Town/Village];

WHEREAS, there are various policies, plans, and programs that the [City/Town/Village] can consider implementing to encourage the deployment of solar energy facilities, including:

- Appointing a task force responsible for solar programs by charging an existing sustainability task force or conservation advisory council or creating a Solar/Renewable Energy Task Force
- Evaluating opportunities, conducting studies, and performing

Zoning for Solar Energy

Zoning Must Be in Accordance with Comprehensive Plan

Photo Credit (from top left to bottom right): Sunation Solar, OnForce Solar, Hudson Solar, & Monolith Solar

Solar Friendly Communities

3 Steps to prepare for solar development:

1. Establish solar **goals** in planning process
2. Adopt solar **code** language
3. Define a clear & simple **permitting** process by adopting NYS Unified Solar Permit

Local Plan	Zoning	Permitting	Financing	Market Development

Delegation of Authority

Legislature

- Adopt Land Use Laws and Plans
- Site Plan Approval
- Subdivision Approvals
- Special Permits

Building Inspector

- Building permits

Zoning Board of Appeals

- Variances
- Interpretation
- Site Plan Approval
- Subdivision Approvals
- Special Permits

Planning Board

- Advises on Zoning Adoption
- Site Plan Approval
- Subdivision Approvals
- Special Permits

Solar in Your Community

- How closely does solar help meet existing community goals?
- What scales and contexts are appropriate?
- How much development is possible within the appropriate scales and contexts?

Residential Rooftop

Commercial Rooftop

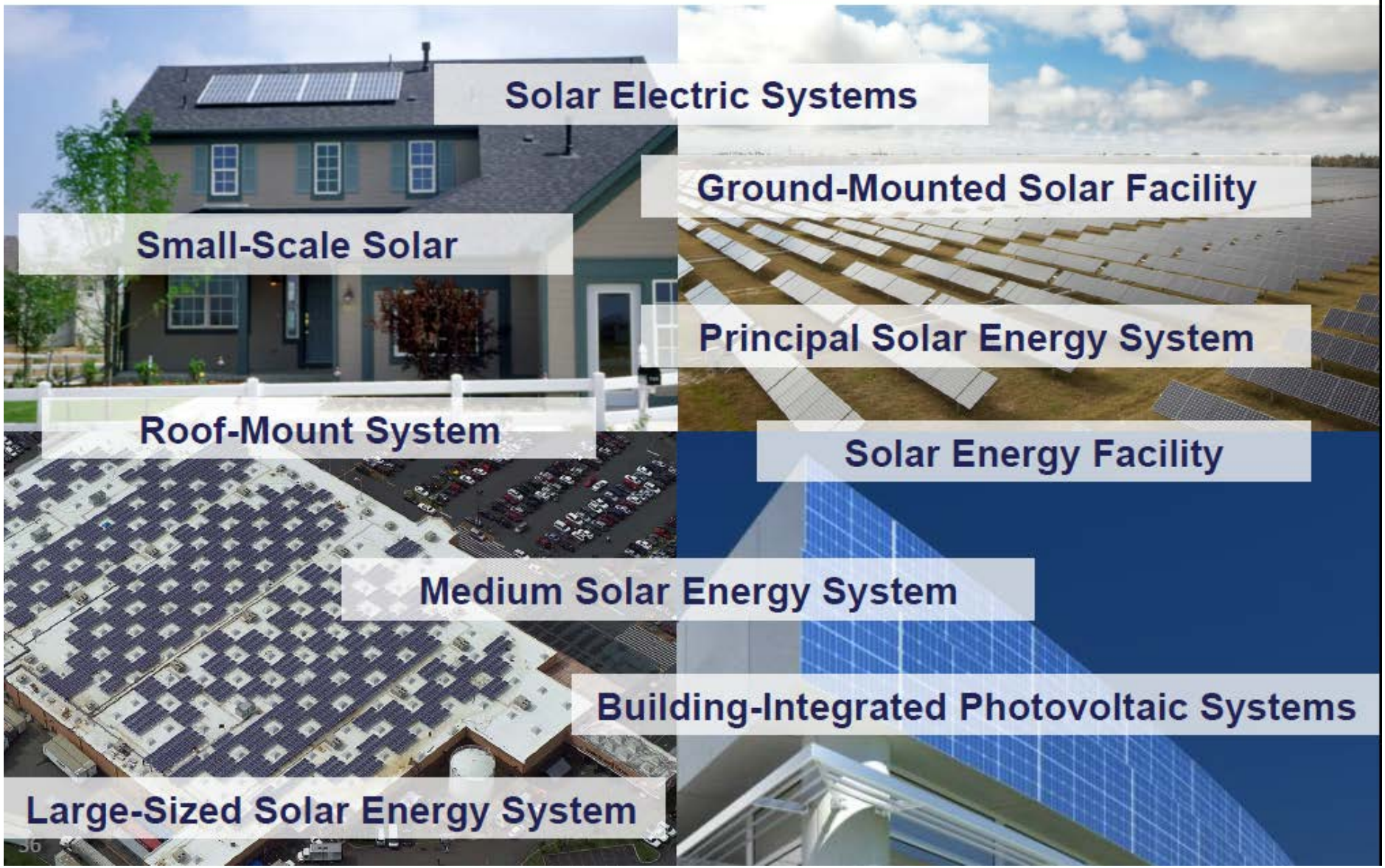
Building-Integrated

Historic Buildings

Brownfields / Landfills

Greenfields

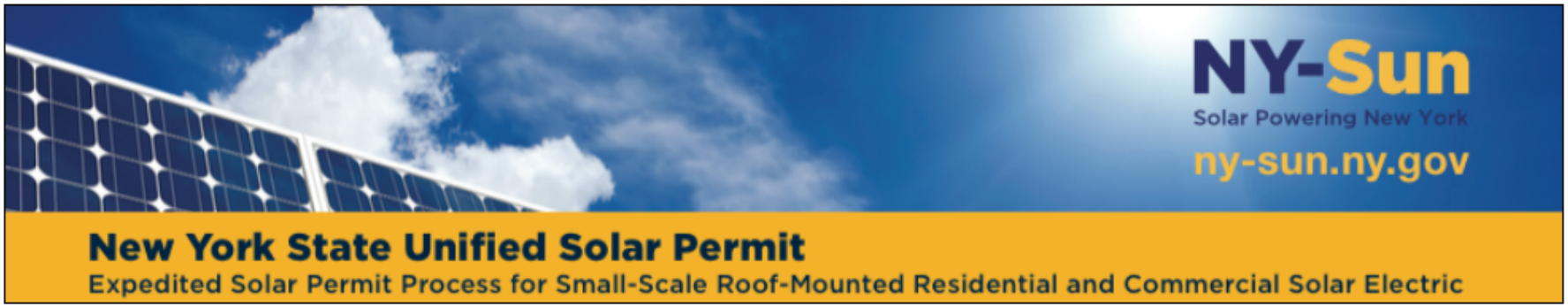
Defining Solar Energy Systems



Review and Approval Process

Project review and approval requirements generally intensify as impacts associated with permitted solar energy systems increase.

Land Use Review Options



For Small-Scale, Accessory Systems:

- Must be 12 kW or less & roof-mounted
- Exempt from zoning review
- Expedited review for combined building and electrical permit

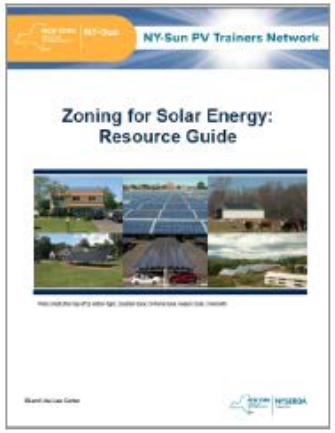
NYS Unified Solar Permit

Adoptees in Central New York

1) City of Oneida
2) City of Oswego
3) Town of DeWitt
4) Town of DeRuyter
5) Town of Cazenovia
6) Town of Fabius
7) Town of Fenner
8) Town of Genoa
9) Town of Georgetown
10) Town of Lafayette
11) Town of Lebanon
12) Town of Lenox
13) Town of Lincoln
14) Town of Marcellus
15) Town of Minetto
16) Town of Montezuma
17) Town of Nelson
18) Town of Orwell
19) Town of Owasco
20) Town of Parish
21) Town of Pompey
22) Town of Richland
23) Town of Sandy Creek
24) Town of Scipio
25) Town of Sennett
26) Town of Skaneateles
27) Town of Volney
28) Town of Williamstown
29) Village of Aurora
30) Village of Baldwinsville
31) Village of Canastota
32) Village of Hamilton
33) Village of Lacona
34) Village of Liverpool
35) Village of Marcellus
36) Village of Minoa
37) Village of Morrisville
38) Village of Parish
39) Village of Port Byron
40) Village of Pulaski
41) Village of Sandy Creek
42) Village of Tully

Resources: NY-Sun PV Trainers Network

Zoning for Solar Energy: Resource Guide

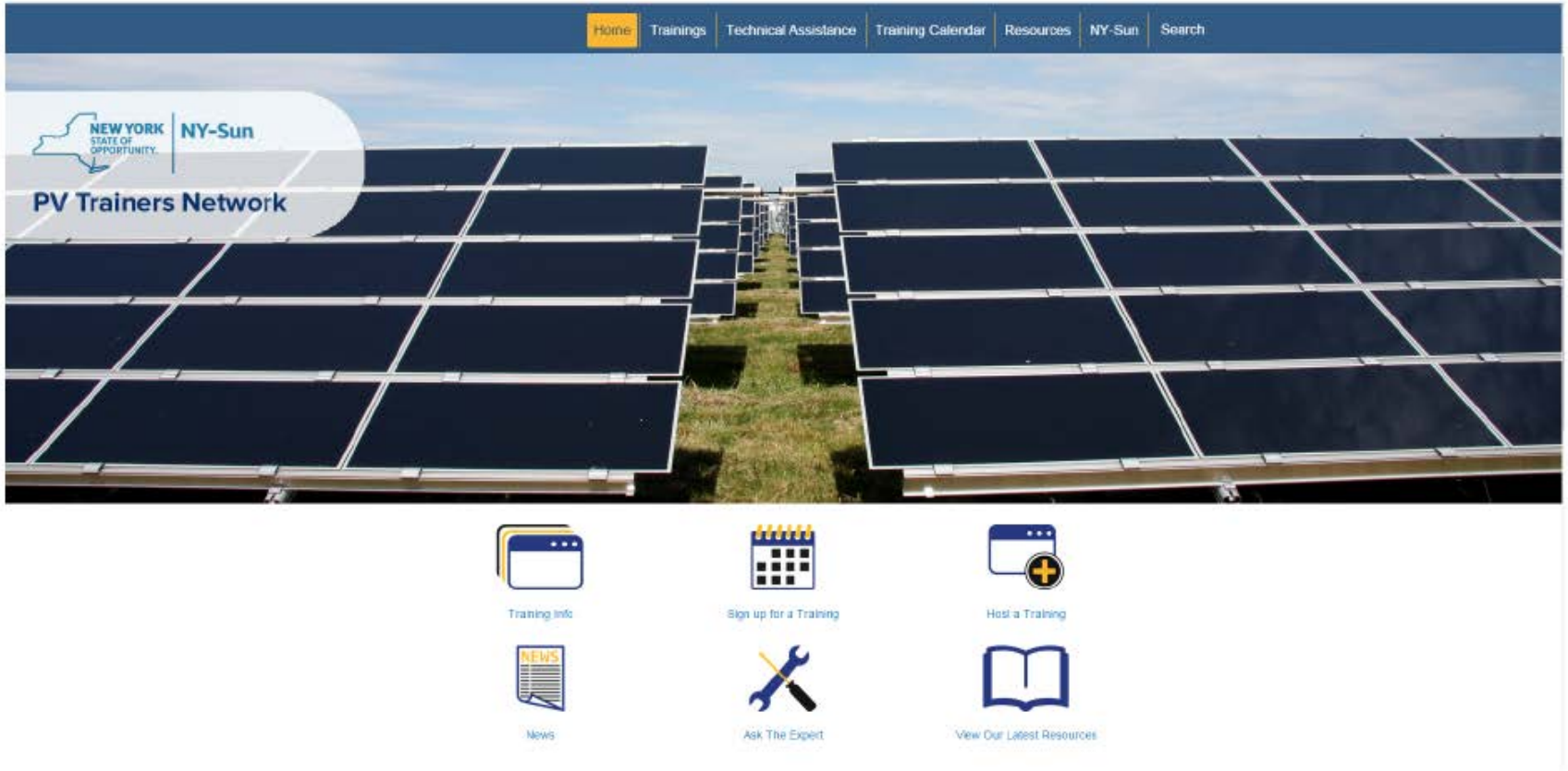


https://training.ny-sun.ny.gov/images/PDFs/Zoning_for_Solar_Energy_Resource_Guide.pdf

Zoning for Solar: Webinar

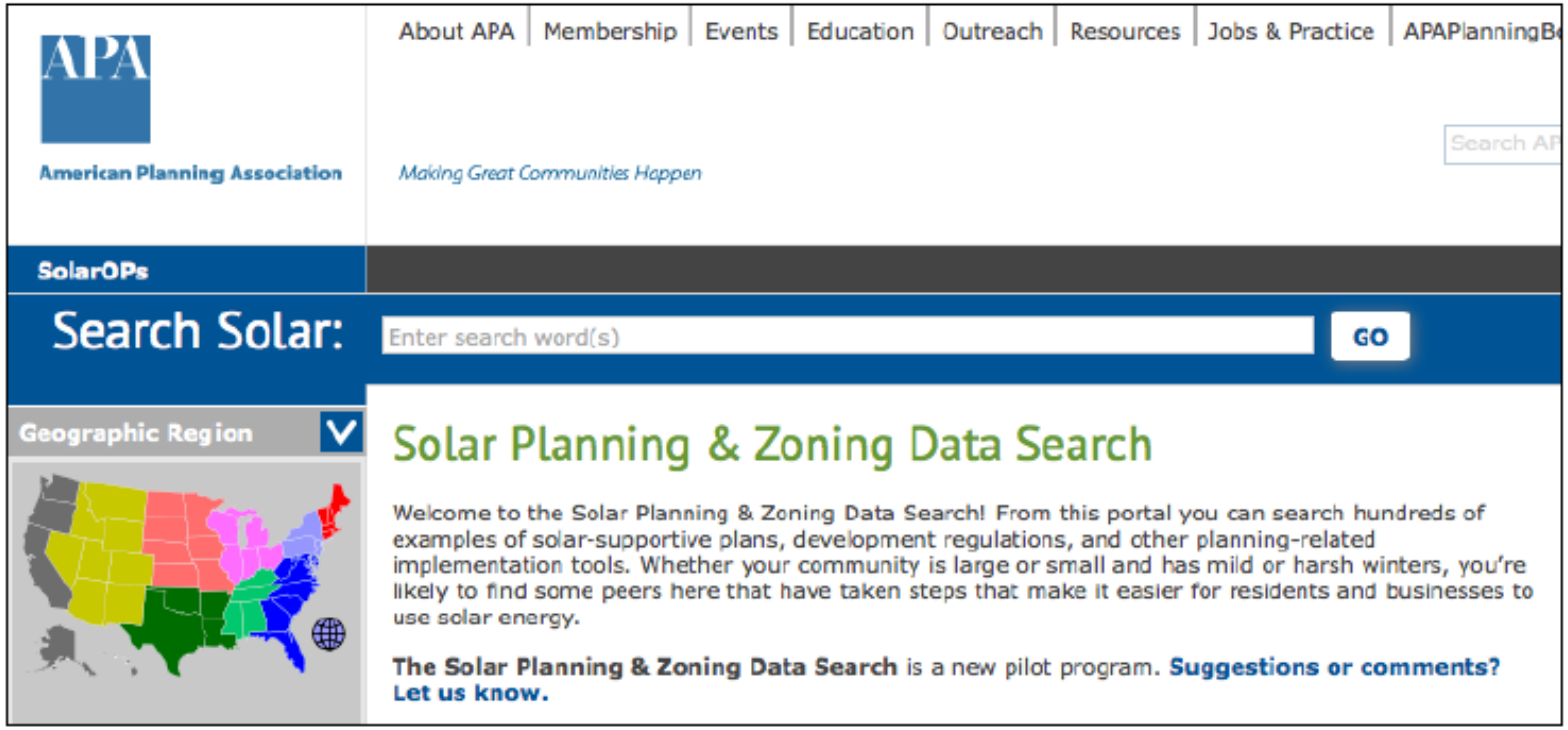
https://training.ny-sun.ny.gov/zoning-for-solar-webinar

Resources: NY-Sun PV Trainers Network



Visit: https://training.ny-sun.ny.gov/

Resource: APA Solar Planning & Zoning Data Search



www.planning.org/solar/data/

Thank You for Your Attention!

Questions?

For Further Information Contact:

Chris Carrick
Energy Program Manager
(315) 422-8276 ext. 213
ccarrick@cnyrpdb.org

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