NEW YORK STATE OF OPPORTUNITY. | NY-Sun

NY-Sun PV Trainers Network

Planning and Zoning for Solar

Presented by the

NY-Sun PV Trainers Network

MEISTER CONSULTANTS GROUP
Independent Contractor to NYSERDA

LAND USE LAW CENTER
PACE LAW SCHOOL

CUNY

NEW YORK STATE OF OPPORTUNITY. | NYSERDA

Your Presenter Today

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Pace Law School

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Who's in the room?

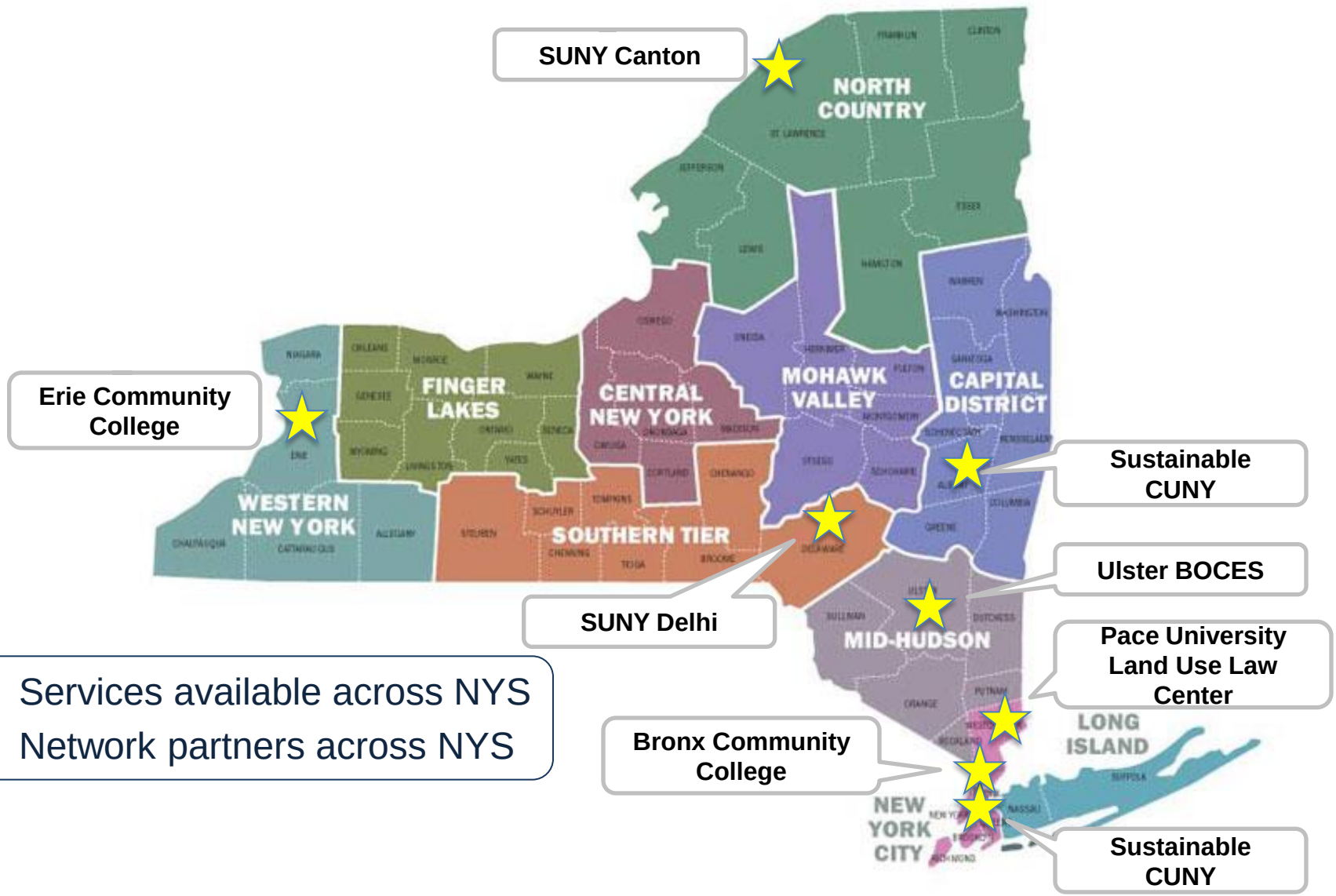
A. Land Use Board member
B. Municipal Planning/Building Department staff
C. Elected officials
D. County government
E. State Agency
F. Solar industry
G. Developer
H. Planners, Attorneys or other professional
I. Community member
J. Other

About the PV Trainers Network

The NY-Sun PV Trainers Network aims to lower the installation cost and expand adoption of solar PV systems throughout the state.

training.ny-sun.ny.gov

Program Covers Entire State



- Services available across NYS
- Network partners across NYS

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 of the electric grid
- Reduce air pollution
- Make solar available to all New Yorkers that want it

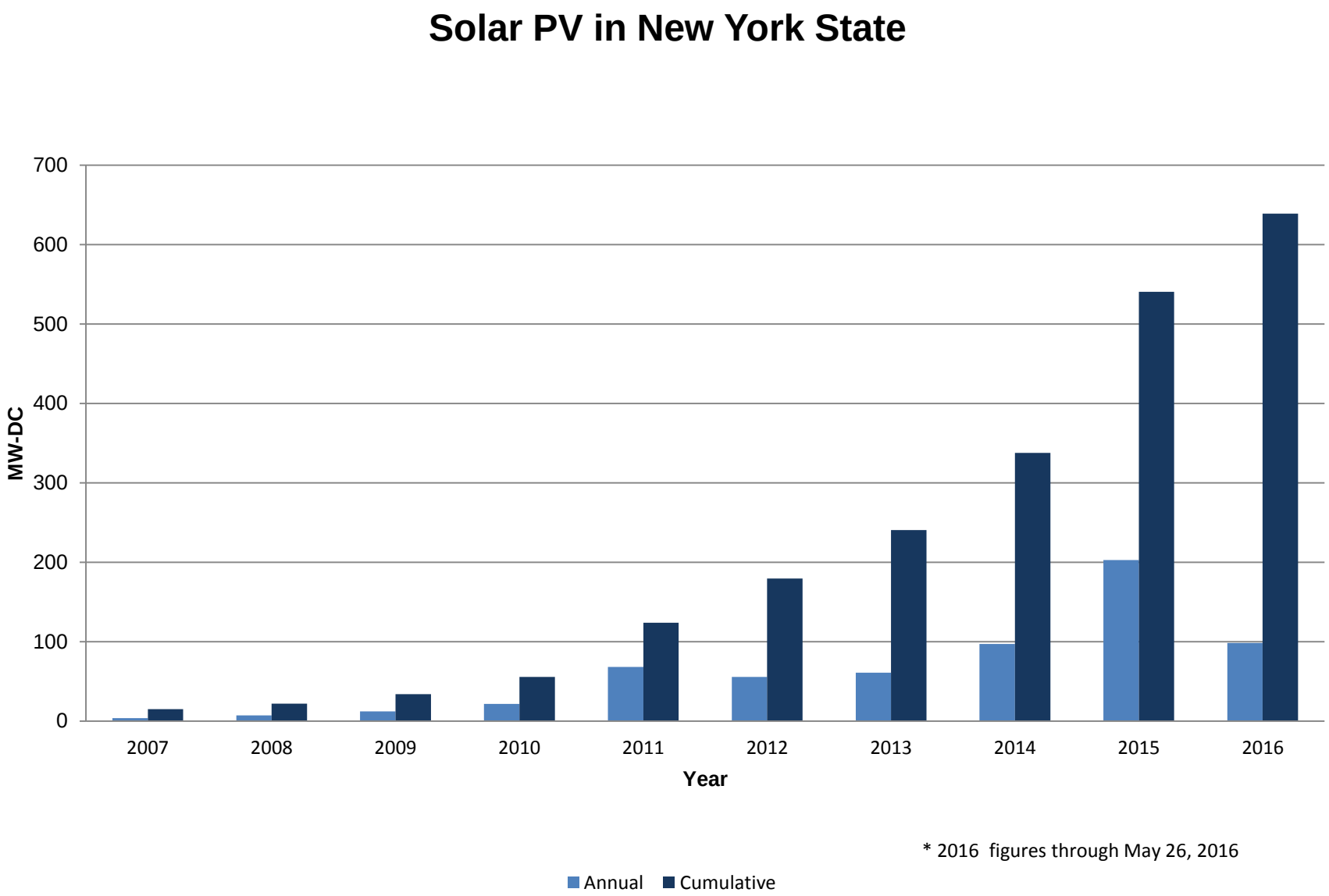
Statewide Goal of 3 GW

$961 Million Total Budget

Stimulate the Market Place

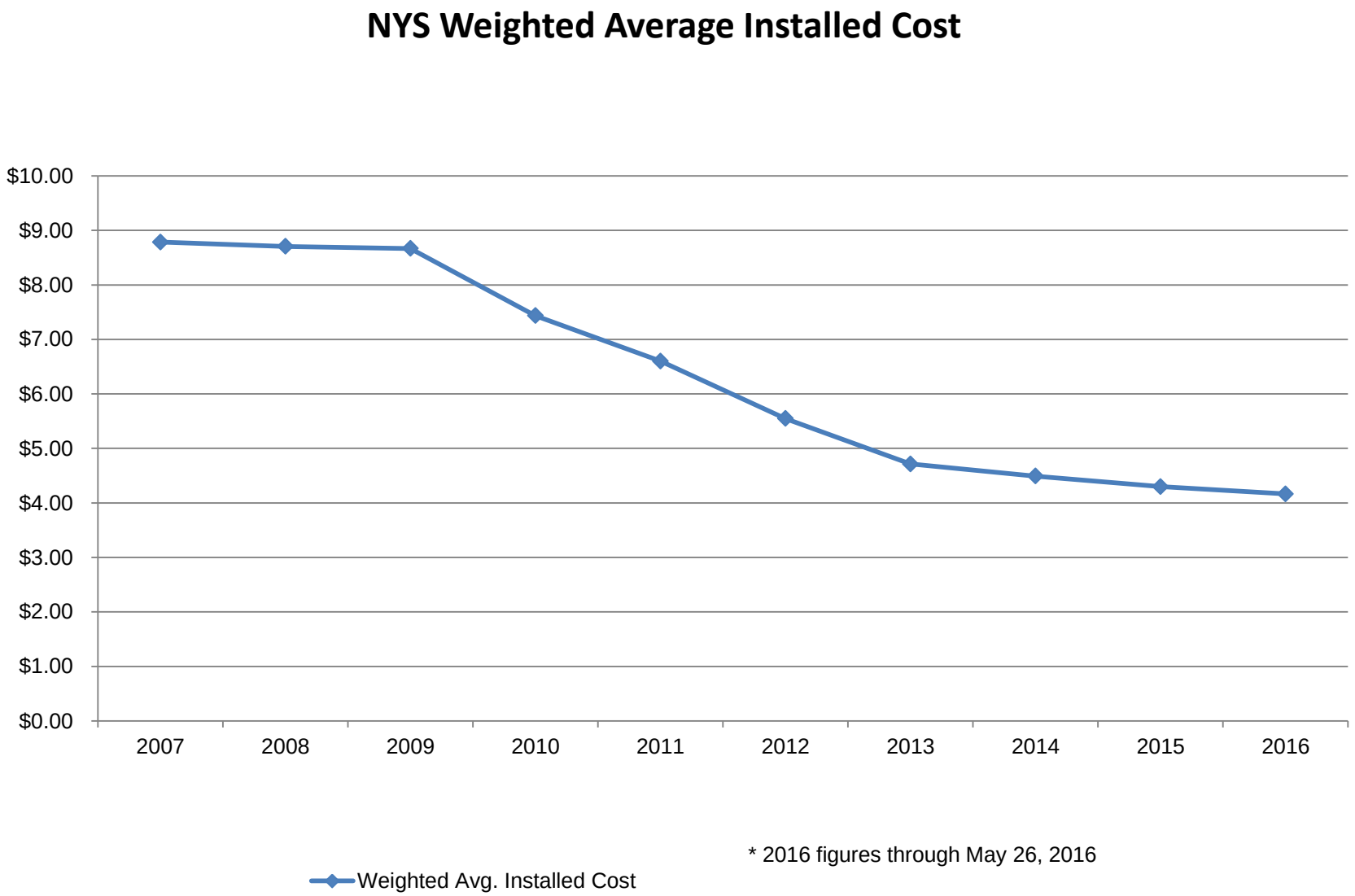
Reduce Soft Costs

NY State Solar Market

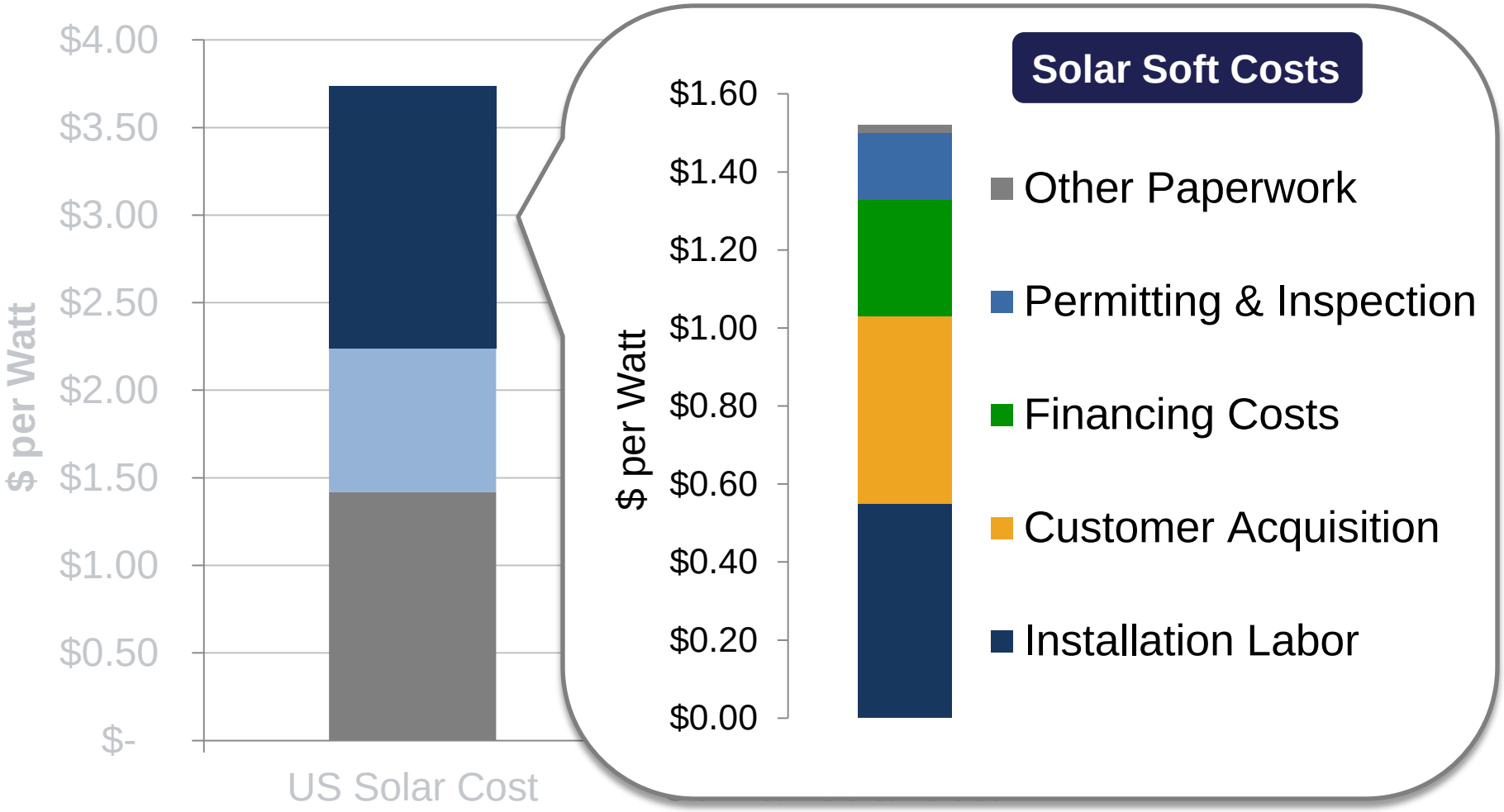


* 2016 figures through May 26, 2016

NY State Solar Market

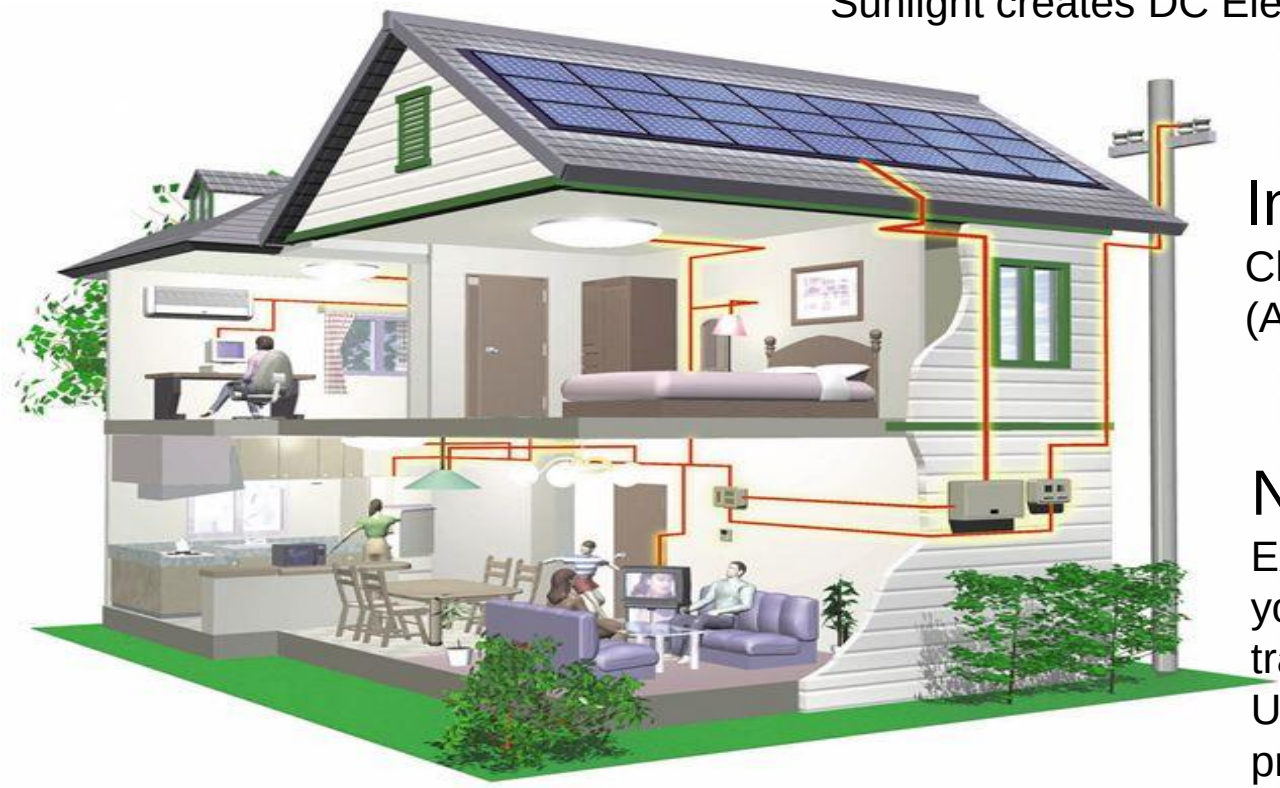


US Solar Costs



System Components

The Grid Tied Solar Electric System



Solar Panels

Sunlight creates DC Electricity

Inverter

Changes DC Power to AC
(AC Power used in Home)

Net Metering

Excess (Unused) power turns your meter backward and travels back into the grid. Utility issues credits for power produced.

Scale

Capacity

Residence
5-10 kW

Office
50 – 500 kW

Factory
1 MW+

Utility
2 MW+

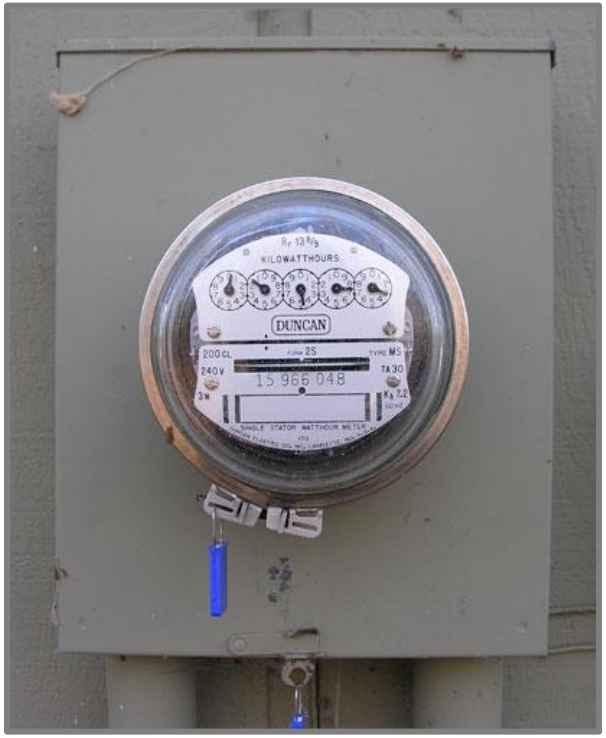
Rooftop/Land Area

1 kW ≈ 100 SqFt

1 MW ≈ 6 acres

Net Metering

Net metering allows customers with PV to export power to the grid during times of excess generation, and receive credits that can be applied to later electricity usage



Example Net Metering Bill with Credit

July Reading (Actual)		56351		
June Reading (Actual)		-56,451		
Total Usage KWh 32 Days		-100	**Credit**	
Net Metering Summary				
Prior Credit	-50			
Actual Metered Kwh	-100			
New Cumulative Credit	-150			
Billed KWH	0			
Anniversary Month	April	**Annual Reconciliation Month**		
Delivery Charges				
Basic Service Charge			17.00	**Cannot be offset with solar**
First	0 KWH @ 0.XXX	Prices vary	0	
Energy Cost Adj	0 KWH @ 0.XXX		0	
SBC/RPS Chg	0 KWH @ 0.XXX		0	
Government surcharges			0.5	
Total Delivery Charges			17.00	
Current Electric Charges			17.50	**Amount Due**

Investment Tax Credit

Type: Tax Credit

Eligibility: For-Profit Organization, Homeowner

Value: 30% of the installation cost

Availability: **Extended through 2022**

(declines to 26% in 2020, and 22% in 2021)

NY-Sun “MW Block” Incentive

Type: Cash incentive

Structure: Incentive offer declines as program grows

Separate Incentives for:

- Residential Customers *(up to 25 kW)*
- Small Non-Residential Customers *(up to 200 kW)*
- Large Non-Residential Customers *(>200 kW – 2 MW)*

Program progress tracked separately by region

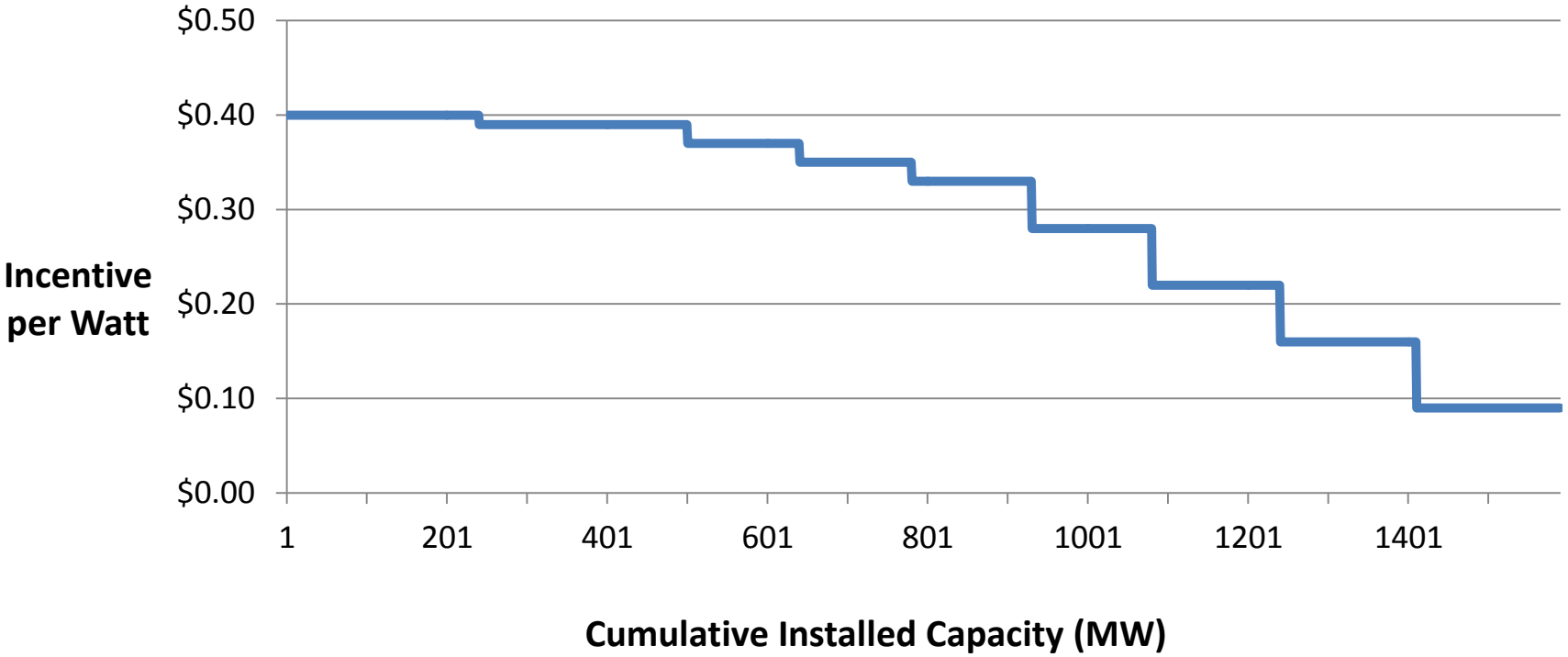
For Large (>200 kW) projects, 20% adder for projects located on constrained distribution circuits

Availability: Dec 29, 2023 or until funds run out

NY-Sun Incentive Program: MW Block

Non-NYC Commercial MW Block Incentive

Projects larger than 200 kW, volumetric crediting



Incentives decline as program capacity fills

1,590 MW of capacity available outside of ConEd territory

Opened May 4, 2015

Real Property Tax Exemption

"Real Property which includes a solar energy system… shall be exempt from taxation to the extent of any increase in the value thereof by reason of the inclusion of such solar energy system for a period of 15 years…" - RPTL Section 487

- Special ad valorem and special assessments are not exempt (sewer, water, fire, library, etc.)
- After a 15-year period, the solar energy system is fully taxable at the assessed value at that point in time
- All municipalities, counties and school districts are automatically included in PTE unless they opt out through local law or resolution. This law is applicable until 2024.
- More than 92% of all taxing jurisdictions continue to offer this exemption.

Real Property Tax Exemption

Solar impacts the local economy

Jobs

- 8,250 solar jobs in NYS (3rd most in US)
- 631 solar companies (4th most in US)

Value of the solar industry

- $877 million in NYS in 2015

Local indirect impacts of solar project spending

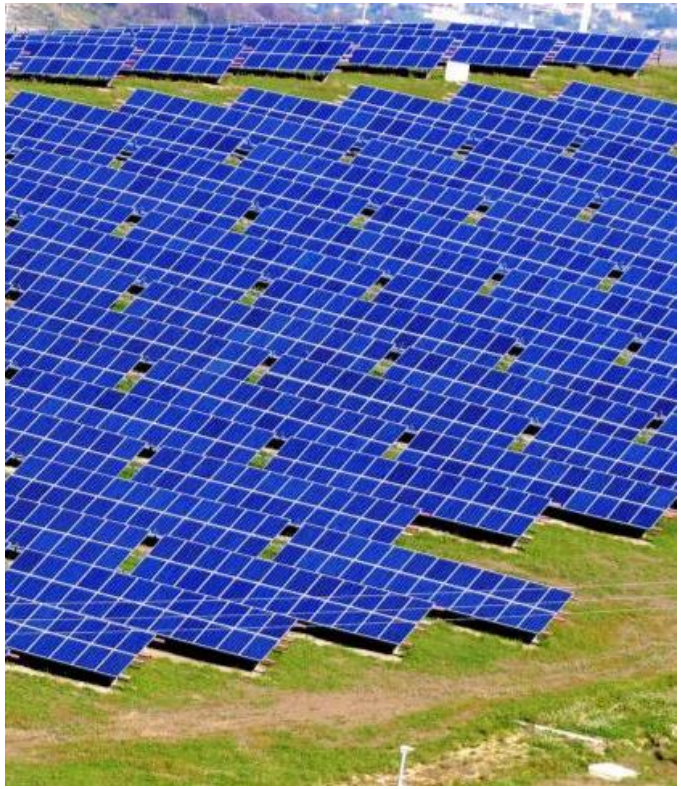
Real Property Tax Exemption

Jurisdictions that opt out of RPTL § 487 will likely not collect substantial tax revenue

- Opting out makes investing in solar economically unfeasible for residential, commercial and larger-scale solar.
- Solar developers avoid jurisdictions that have opted out of the exemption.
- A full list of municipalities, counties and school districts that opted out of RPTL § 487 can be found on the NYS Department of Taxation and Finance's website https://www.tax.ny.gov/research/property/legal/localop/487opt.htm

Payment in Lieu of Taxes (PILOT)

- Jurisdictions that have not opted out of the PTE may use Payment In Lieu of Taxes (PILOT) with specific projects.
- PILOTS can capture revenue for large projects without harming the residential market.
- PILOTs have typically been annual payments related to the system capacity ($/MW).
- PILOTS may not exceed a 15 year term and the value of taxes that would be paid without the exemption provided by the PTE.
- After a period of 15 years, the solar project is fully taxable at the assessed value at that point in time (e.g. the assessed value at year 16).



Source: NY Solar Energy Industry Associations. (2014). “Webinar: Understanding the Property Tax Exemption for Solar in New York.”
PDF Available at: http://media.wix.com/ugd/a89dc9_d897eff4c20c45ac87920f5fc62dc8f0.pdf
Recording Available at: https://www.youtube.com/watch?v=A3Urll1-T0k

PILOT Development for Wind Projects

- Each taxing jurisdiction (county, city, town, village and school district) does not have to enter into its own PILOT with the wind project developer.
- **Multiple jurisdictions can be parties on the same PILOT agreement**, which outlines the amount the property owner pays to each taxing jurisdiction.
- Typically, the **county Industrial Development Agency (IDA) has negotiated the PILOT on behalf of the taxing jurisdictions**, but the agreement may be drafted by the county or local taxing jurisdiction's tax counsel.
- There is currently **no specific guideline for determining the appropriate amount under a PILOT agreement**.
- Most experience with PILOTS in New York is related to wind development.
- A survey found wind PILOTs averaged around $8,000-$9,000/MW for projects above 3 MW.

Source: New York State Wind Energy Toolkit. May 2009. http://www.nyserda.ny.gov/-/media/Files/EERP/Renewables/wind-energy-toolkit.pdf
New York State Solar Energy Industry Association. 2014. http://media.wix.com/ugd/a89dc9_d897eff4c20c45ac87920f5fc62dc8f0.pdf

Range of PILOTS for Solar Projects in Massachusetts

In Massachusetts, PILOTS for solar projects range between $4,000/MW and $27,000/MW

Location	Project Size	Price/MW (without escalation)	Terms	Source
Holyoke, MA	4.5 MW	$5,000	Valid for 20 years	http://www.seia.org/sites/default/files/resources/Holyoke%20PILOT%20Agreement%20-%20Mueller%20Rd%20and%20Meadow%20St%20Solar.pdf
Berkley, MA	2.9 MW	$7,000	Valid for 20 years	http://www.seia.org/sites/default/files/resources/Berkley%20PILOT%20-%20executed.pdf
Holyoke, MA	Not specified	$5,000	Valid for 20 years; payment made twice a year	http://www.seia.org/sites/default/files/resources/Holyoke-Citizens%20PILOT%20Agreement%2011-16-2011.pdf
Rochester, MA	4.2 MW	$9,524	Valid for 20 years; payment made twice a year	http://www.seia.org/sites/default/files/resources/Rochester%20Signed%20PILOT%20agreement%206.4.12%20%281%29.pdf
Worcester, MA	3.3 MW	$12,000	Valid for 20 years; payment made quarterly	http://www.seia.org/sites/default/files/resources/Shrewsbury%20PILOT%20Agreement%20-%202012.pdf
Stow, MA	Not specified	$7,500	Valid for 20 years; payment made quarterly	http://www.seia.org/sites/default/files/resources/Stow%20-%20PILOT.pdf
Uxbridge, MA	2.5 MW	$17,000	Valid for 20 years; payment made quarterly;	http://www.seia.org/sites/default/files/resources/Uxbridge%20Final%20PILOT%20Constellation%20062911.pdf
	Average-->	$7,671		

PILOT Development

- PILOTs add to the costs of solar projects
- Jurisdictions should **clearly outline their stance on PTE and PILOTs** as any uncertainty can jeopardize a project.
- **Developers should contact the taxing jurisdictions** about the project **in advance** to find out the various stances on PILOTs.
- If developer or property owner **formally contacts a jurisdiction through written notice** that they intend to construct a solar energy system within the municipality, **the municipality has 60 days** from receiving the notice of intent **to notify the developer or owner that it intends to require a PILOT.**
- The **owner or developer is not required to use a specific form or language** when giving a municipality notice of its intent to construct a solar project.
- The value of the PILOT is usually based on the **developers project costs, expected cash-flows and the developer's financing/investor requirements**.
- If a jurisdiction requires a PILOT higher than a developer can pay, the jurisdiction will most likely lose the project.
- Jurisdictions may want to **understand the taxable value of the project after year 15**, so they can plan their future expected revenues accordingly.

Property Tax Resources

NYS Department of Taxation and Finance. “Assessors Manual, Volume 4, Exemption Administration.”
https://www.tax.ny.gov/research/property/assess/manuals/vol4/pt1/sec4_01/sec487.htm

NYSERDA. “Factsheet: Understanding the Real Property Tax Law Section 487.”
https://training.ny-sun.ny.gov/images/PDFs/SUN-GEN-taxlaw487-fs-1-v1_FINAL.PDF

NYS Department of Taxation and Finance. “Recent Questions on the Real Property Tax Law and Solar Energy Systems.”
www.tax.ny.gov/pdf/publications/orpts/legal/raq2.pdf?_ga=1.225179802.1031257166.1423842465

New York Solar Energy Industry Association (NYSEIA). “Webinar: Understanding the Property Tax Exemption for Solar in New York,” Recoding: www.youtube.com/watch?v=A3Urll1-T0k; Slides: http://media.wix.com/ugd/a89dc9_d897eff4c20c45ac87920f5fc62dc8f0.pdf

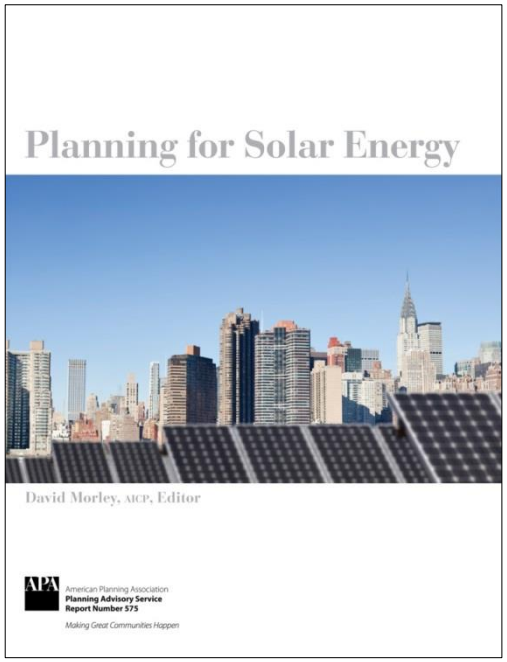
Barnes et al. “Property Taxes and Solar PV Systems: Policies, Practices, and Issues.”
nccleantech.ncsu.edu/wp-content/uploads/Property-Taxes-and-Solar-PV-Systems-2013.pdf

NYSERDA Wind Energy Toolkit: “Section 7.2,page 30. Property Tax: Exemptions and PILOTS”
nyserda.ny.gov/-/media/Files/EERP/Renewables/wind-energy-toolkit.pdf

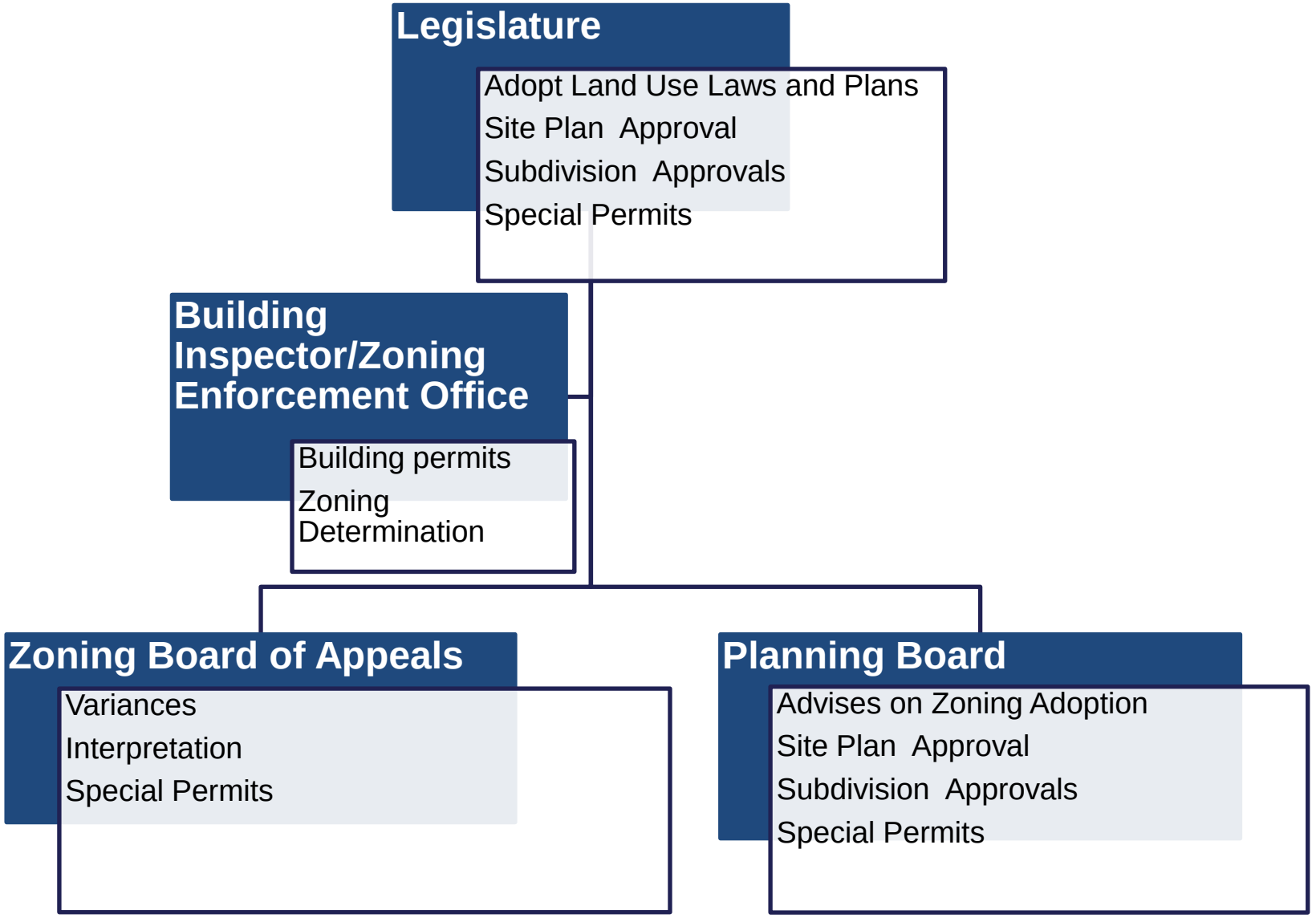
National Renewable Energy Laboratory (NREL). “Top Five Large-Scale Solar Myths.”
https://www.nrel.gov/tech_deployment/state_local_governments/blog/top-five-large-scale-solar-myths

Land Use Planning for Solar Energy

- Plan Making
- Policy Development
- Community Engagement



Delegation of Authority



Role of Local Gov't & Planning

1,550+ local jurisdictions in NY

With land use authority

Source: NREL

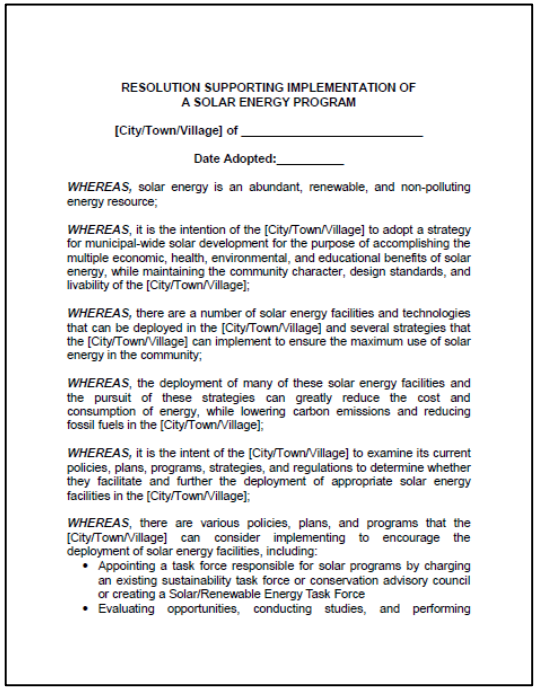
Policy Development Framework

Adopt a Resolution or Mayoral Proclamation that:

- Lists solar benefits and findings
- States intention to plan and regulate for solar
- Adopts a task force
- Authorizes research and studies
- Establishes a training program
- Authorizes an inter-municipal partnership
- Seeks state and federal funding and assistance
- Develop a community engagement process

Policy Development

Adopt a Resolution or Mayoral Proclamation



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];

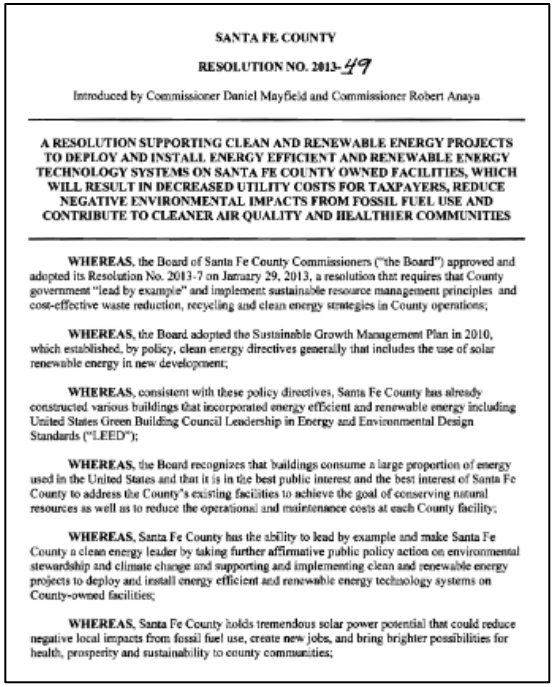
WHEREAS, there are a number of solar energy facilities and technologies that can be deployed in the [City/Town/Village] and several strategies that the [City/Town/Village] can implement to ensure the maximum use of solar energy in the community;

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



SANTA FE COUNTY

RESOLUTION NO. 2013-49

Introduced by Commissioner Daniel Mayfield and Commissioner Robert Anaya

A RESOLUTION SUPPORTING CLEAN AND RENEWABLE ENERGY PROJECTS TO DEPLOY AND INSTALL ENERGY EFFICIENT AND RENEWABLE ENERGY TECHNOLOGY SYSTEMS ON SANTA FE COUNTY OWNED FACILITIES, WHICH WILL RESULT IN DECREASED UTILITY COSTS FOR TAXPAYERS, REDUCE NEGATIVE ENVIRONMENTAL IMPACTS FROM FOSSIL FUEL USE AND CONTRIBUTE TO CLEANER AIR QUALITY AND HEALTHIER COMMUNITIES

WHEREAS, the Board of Santa Fe County Commissioners ("the Board") approved and adopted its Resolution No. 2013-7 on January 29, 2013, a resolution that requires that County government "lead by example" and implement sustainable resource management principles and cost-effective waste reduction, recycling and clean energy strategies in County operations;

WHEREAS, the Board adopted the Sustainable Growth Management Plan in 2010, which established, by policy, clean energy directives generally that includes the use of solar renewable energy in new development;

WHEREAS, consistent with these policy directives, Santa Fe County has already constructed various buildings that incorporated energy efficient and renewable energy including United States Green Building Council Leadership in Energy and Environmental Design Standards ("LEED");

WHEREAS, the Board recognizes that buildings consume a large proportion of energy used in the United States and that it is in the best public interest and the best interest of Santa Fe County to address the County's existing facilities to achieve the goal of conserving natural resources as well as to reduce the operational and maintenance costs at each County facility;

WHEREAS, Santa Fe County has the ability to lead by example and make Santa Fe County a clean energy leader by taking further affirmative public policy action on environmental stewardship and climate change and supporting and implementing clean and renewable energy projects to deploy and install energy efficient and renewable energy technology systems on County-owned facilities;

WHEREAS, Santa Fe County holds tremendous solar power potential that could reduce negative local impacts from fossil fuel use, create new jobs, and bring brighter possibilities for health, prosperity and sustainability to county communities;

What Are the Benefits of Solar?

A. Econ. Development & job creation
B. Environ. & public health benefits
C. Reduced & stabilized energy costs
D. Energy independence & resilience
E. Value to utility
F. Community pride
G. Other

Example: Statement of Purpose

New York State Model Solar Zoning Ordinance

- Taking advantage of a safe, abundant, renewable, and non-polluting energy resource;
- Decreasing the cost of energy to the owners of commercial and residential properties, including single-family houses; and
- Increasing employment and business development in the region by furthering the installation of Solar Energy Systems.

Additional Benefits

- Decreasing the use of fossil fuels, thereby reducing the carbon footprint of [Insert Name of Municipality];
- Investing in a locally-generated source of energy and increasing local economic value, rather than importing non-local fossil fuels;
- Aligning the laws and regulation of the community with several policies of the State of New York, particularly those that encourage distributed energy systems;
- Becoming more competitive for a number of state and federal grants and tax benefits;
- Making the community more resilient during storm events;
- Aiding the energy independence of the country;
- Diversifying energy resources to decrease dependence on the grid;
- Improving public health;
- Encouraging a sense of pride in the community;
- Encouraging investment in public infrastructure supportive of solar, such as generation facilities, grid-scale transmission infrastructure, and energy storage sites;
- Creating synergy between solar actions of the community and the sustainability provisions of the Comprehensive Plan; and/or
- Creating synergy between solar and [other stated goals of the community pursuant to its Comprehensive Plan], [such as urban/downtown revitalization, vacant land management, creating a walkable, healthy community, etc.].

Appoint a Task Force

- Charge an existing sustainability task force or conservation advisory council
- Work with the Regional Planning Board or County
- Create a Solar/Renewable Energy Task Force

Who sits on the Task Force?

- Municipal Officials
- Solar industry
- Chamber of Commerce
- HOAs
- Environmental/Non-profit Community
- Historic Preservation Representative
- Developers
- Landowners & Farmers
- Planning Board Member (required for Comp. Plan)

What is the Task Force's Role?

- Conducting studies & performing research
- Establishing a training program
- Partnering with adjacent communities
- Leveraging state and federal technical assistance grants
- Developing a community engagement process
- Amending the comprehensive plan
- Considering regulatory changes

Best Practices

KENT COUNTY, MARYLAND

RENEWABLE ENERGY TASK FORCE
Established 9 March 2010

THE VILLAGE OF
Dobbs Ferry
New York

Sustainable Dobbs

The Town of Cortlandt

WELCOME TO THE
Town of DeWitt
Onondaga County, NY Est. 1835
A Climate-Smart Community

Task Force

- Who has a Task Force?
- Who sits on your Task Force?
- What is the role of your Task Force?

Community Engagement

Designing the Process

Advantages of Community Engagement

- Saves time
- Better ideas and shared problem solving
- Builds relationships
- Satisfactory result
- Creates buy-in
- Considers a range of interests
- Encourages future involvement
- Boosts confidence in government
- Increases compliance

Community Engagement

Principles

- Engage Early
- Listen & Learn First
- Build on Interests, Not Positions
- Design an Effective Process
- Be Inclusive & Involve Many
- Be Transparent & Responsive
- Use a Skilled Facilitator

POSITIONS vs. INTERESTS

What are POSITIONS?

Parties' assertions, wants, demands, offers, and solutions

What are INTERESTS?

A person's needs and concerns

Community Engagement

Potential Competing Interests & Priorities

Techniques for Public Engagement

Incentives for Participation

- To improve services / their community
- Opportunity to be a part of change
- To have a voice
- Build self-confidence
- Meet other people
- Refreshments (this is always a good idea when hosting an event)
- Coming to an event and the engagement being secondary (eg: a community event)
- Freebies / a goodie bag
- Cash
- Vouchers
- Entry into a prize drawing

Techniques for Public Engagement

Methods

- Community Meetings
- Interviews, Polls & Surveys & Hotlines
- Websites, Email, Social Media & Texting
- Focus & Advisory Groups
- Neighborhood Walks

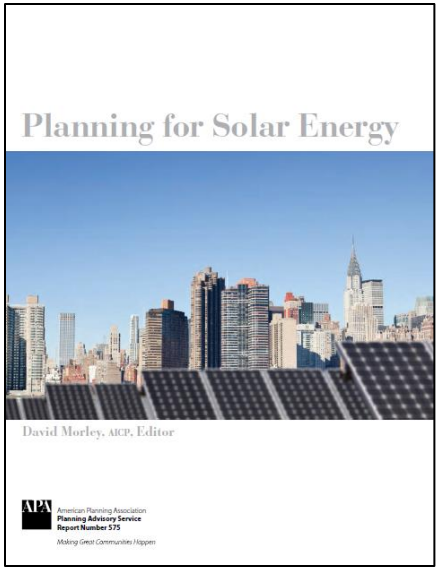
Techniques for Public Engagement

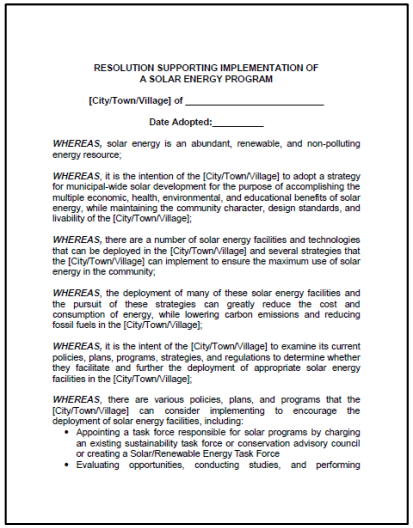
Choose creative locations that will attract diverse stakeholders and get mobile

- Trains
- Parks
- Bars/Restaurants
- Schools
- Shopping Centers
- Homeowner Association Meetings
- Senior and Recreational Centers
- Business locations/restaurants

Planning to Accommodate Solar

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





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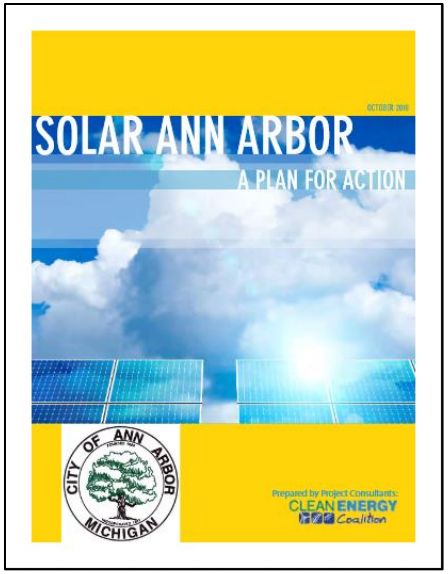


Plan Making

Communitywide Comprehensive Plan

Neighborhood Plans

Corridor Plans

Special District Plans

Green Infrastructure Plans

Energy Plan

Climate Action Plan

Example: Plan Making

Comprehensive Plan Best Practice

The Green Buildings and Environmental Sustainability Element of the Master Plan

Lawrence Township, Mercer County, New Jersey

Example: Plan Making

Comprehensive Plan Best Practice

City of Shakopee 2030 Comprehensive Plan *Solar Access Protection*

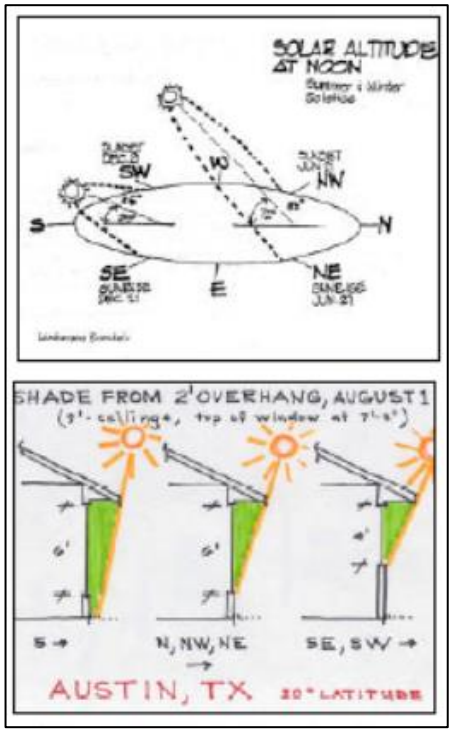
Minnesota's Energy Situation:

Minnesota is almost totally dependent on outside sources for its energy supplies, producing only 0.2% fuel used in the state. Minnesota pays more for fuels than some other states and is more vulnerable to possible supply disruptions. The former Minnesota Energy Agency had developed forecasts of the supply/demand relationship in the year 1995. Its baseline forecast assumed that energy users would respond to higher energy prices by 1) reducing their consumption or switching to lower priced fuels, b) that there would be some energy conservation, and c) that economic growth would continue.

Example: Plan Making

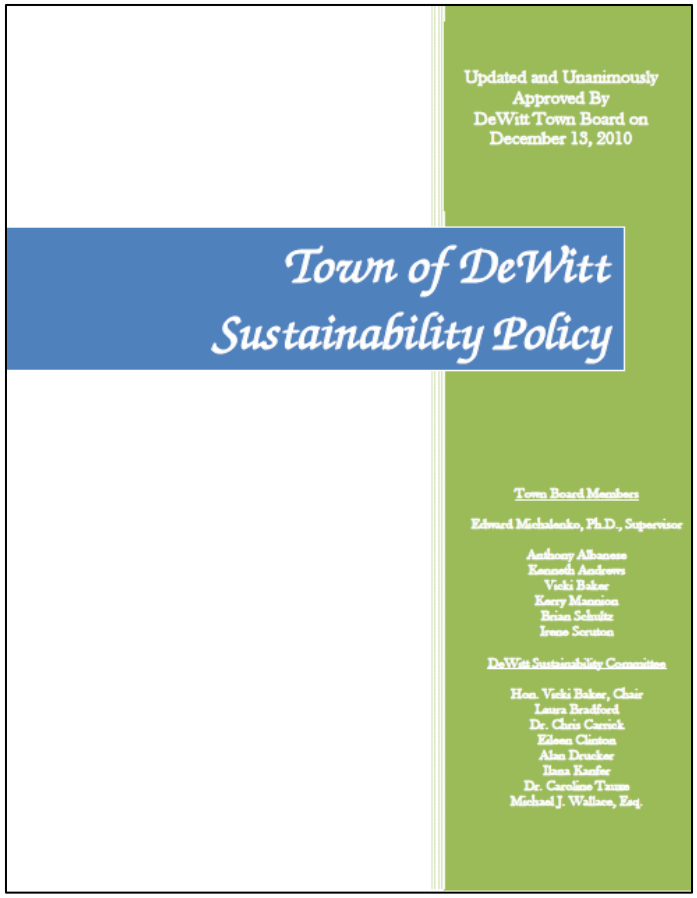
Subarea Plan Best Practice

Brentwood/Highland
Neighborhood Plan



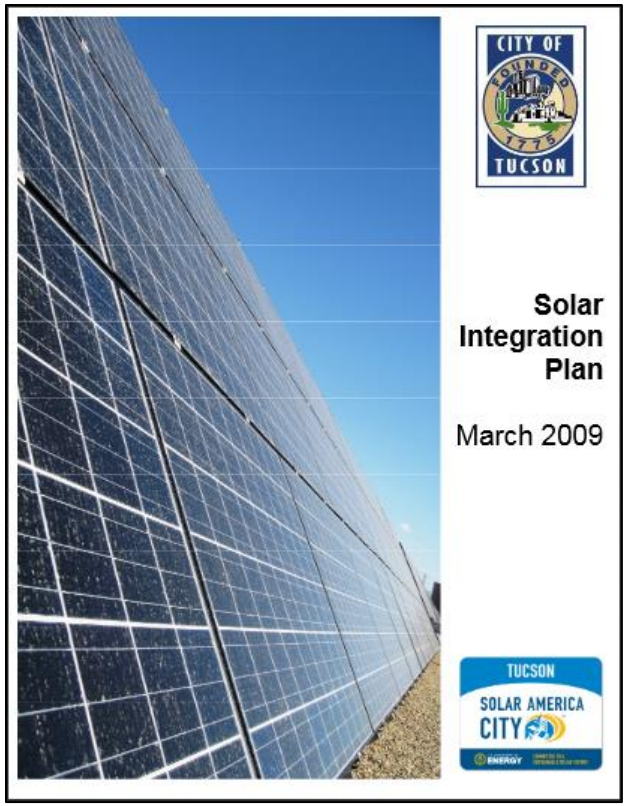
Example: Plan Making

Functional Plan Best Practice



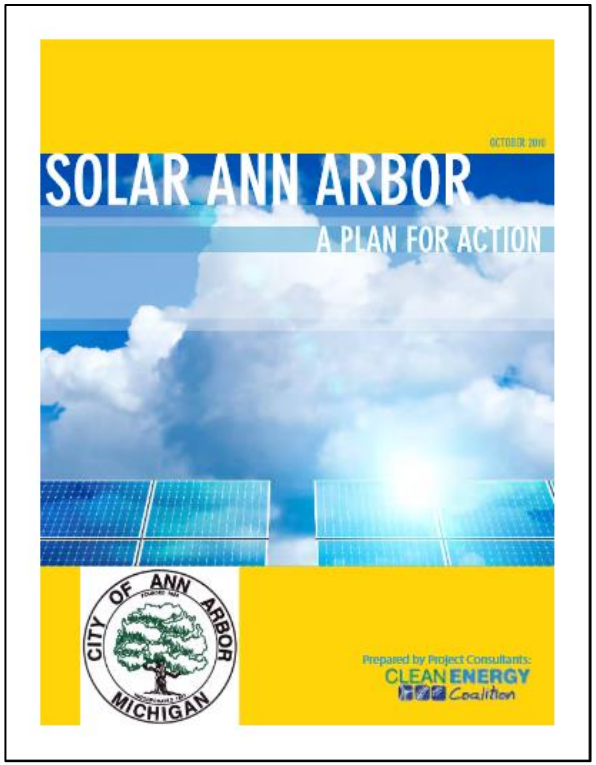
Example: Plan Making

Functional Plan Best Practice

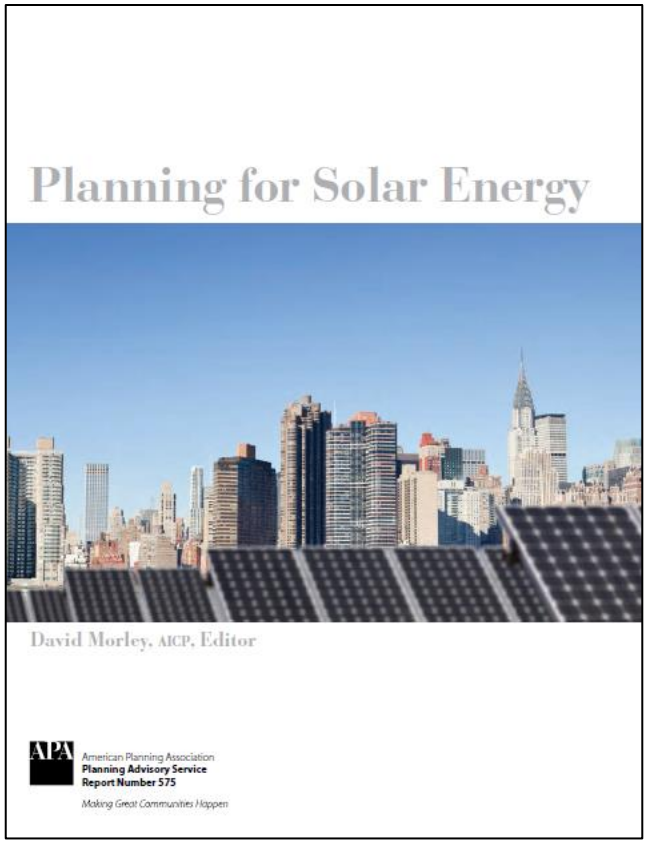


Example: Plan Making

Functional Plan Best Practice

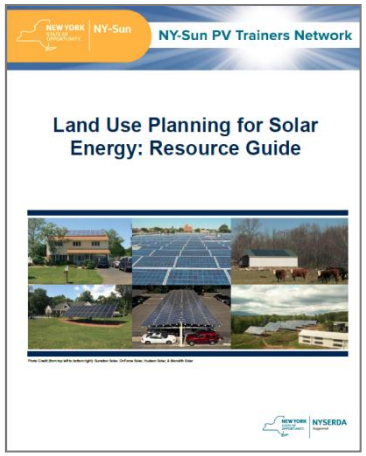


Resource: Planning for Solar Energy



Resources: NY-Sun PV Trainers Network

Land Use Planning for Solar Energy



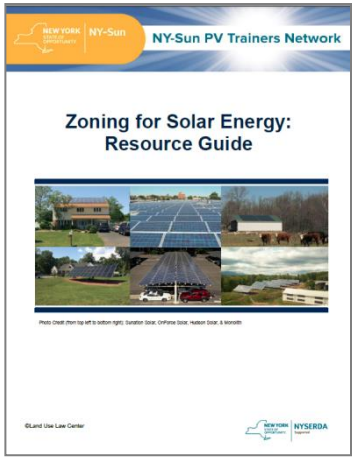
https://training.ny-sun.ny.gov/images/PDFs/Land_Use_Planning_for_Solar_Energy.pdf

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

New York Zoning Resources



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

New York State Model Solar Zoning Ordinance

New York Model Solar Zoning Law

http://www.cuny.edu/about/resources/sustainability/reports/NYS_Model_Solar_Energy_LawToolkit_FINAL_final.pdf

Types of Solar Energy Systems

Building Integrated

Small-Scale Roof

Large-Scale Roof

Small-Scale Ground

Large-Scale Ground

Example Zoning Chapter

- Purpose
- Definitions
- Establishment of Districts & Zoning Map
- District Use, Lot and Bulk Regulations
- Special Permit Regulations
- Supplemental Regulations
- Off-street Parking, Driveways and Loading Areas
- Nonconforming Uses, Buildings and Structures
- Site Plan and Special Permit Review & Approval

Example: Model Solar Zoning Law

Section 1: Authority
Section 2: Statement of Purpose
Section 3: Definitions
Section 4: Applicability
Section 5: Solar as an Accessory Use/Structure
Section 6: Approval Standards for Large-Scale Solar Systems as a Special Use
Section 7: Abandonment and Decommissioning
Section 8: Enforcement
Section 9: Severability

http://www.cuny.edu/about/resources/sustainability/reports/NYS_Model_Solar_Energy_LawToolkit_FINAL_final.pdf

Defining Solar Energy Systems

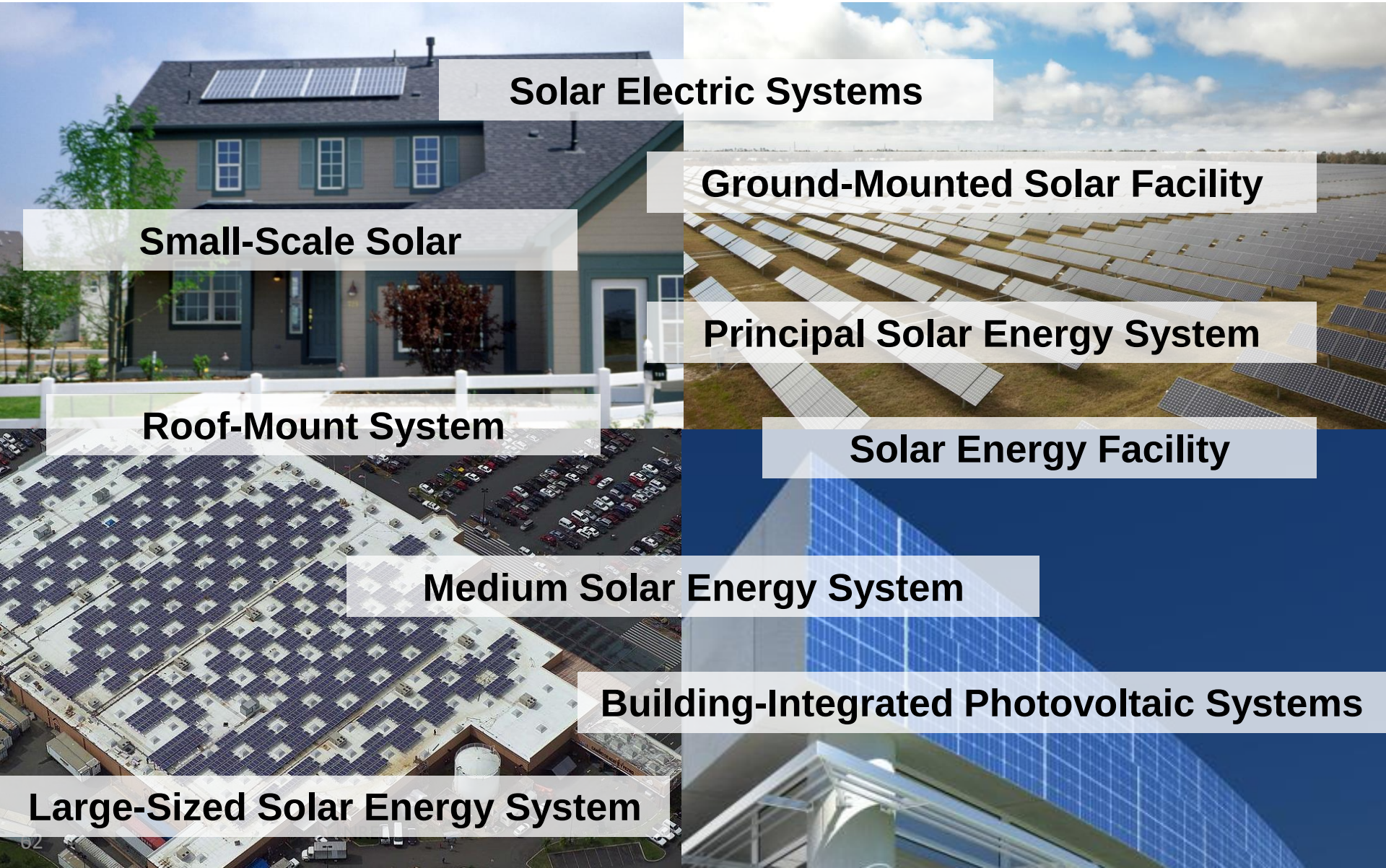
Zoning Definitions Section

§ 300-4 Definitions and word usage.

A. Word usage. Except where specifically defined herein, all words used in this chapter shall carry their customary meanings. Words used in the present tense include the future, and the plural the singular. The word "lot" includes the word "plot"; the word "building" includes the word "structure"; the word "shall" is intended to be mandatory; and "occupied" or "used" shall be considered as though followed by the words "or intended, arranged or designed to be used or occupied."

B. Definitions. As used in this chapter, the following terms shall have the meanings indicated:

Defining Solar Energy Systems



Defining Solar: Four Factors To Consider

- Energy System Type
- Location Where System-Produced Energy is Used
- Bulk & Area of System Dimensions
- System Energy Capacity

Defining Solar: System Type

- Roof- or Building-Mounted
- Ground-Mounted or Freestanding
- Building-Integrated

Defining Solar: Energy Usage

Energy is Used:

- Entirely Onsite with Some Net Metering
- Entirely Offsite
- Onsite & Offsite

Defining Solar: Bulk & Area

Define according to physical size of system:

- Min. or Max. Footprint or Disturbance Zone
- Measured in:

  acres, square feet, % lot coverage, or
  % of primary structure's foot print

Defining Solar: Energy Capacity

Minimum or Maximum kW:

- Generating Capacity
- Rated Capacity
- Rated Storage Volume

Example: System Type and Energy Capacity

New York State Unified Solar Permit

Expedited Solar Permit Process for Small-Scale Photovoltaic Systems

For Small-Scale Solar Electric Systems:

- Rated capacity of 12 kW or less
- Roof-Mounted

http://www.cuny.edu/about/resources/sustainability/nyssolar/NYSolarSmartPermitWorkshops.html

Example: System Type & Energy Usage

New York State Model Solar Zoning Ordinance

- Building-Integrated Photovoltaic
- Roof-Mounted – on or off site use
- Ground-Mounted – primarily used on-site
- Large-Scale System→ ground mounted & offsite energy consumption

Example: System Type, Energy Usage, Energy Capacity

Large SES

- Ground-mounted
- Rated capacity of ≥ 200 kW
- Offsite use (sell to power grid)

Medium SES

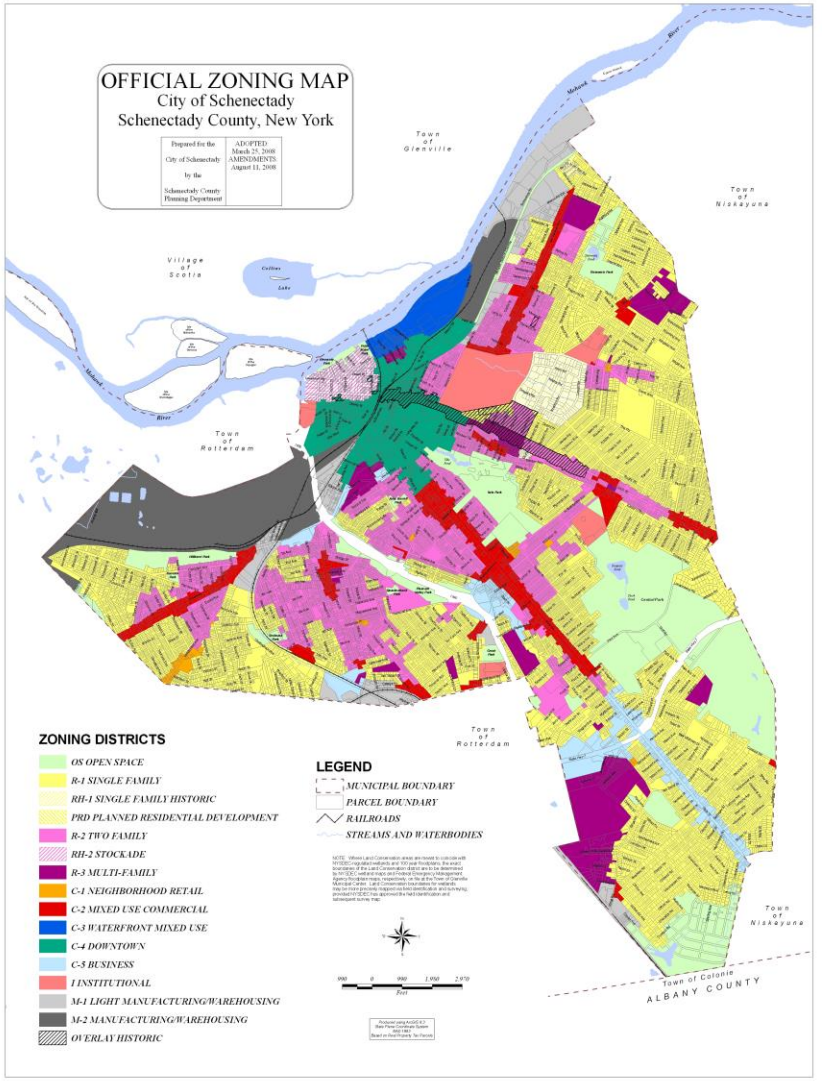
- Ground-mounted & rated capacity of < 200 kW but > 5 kW
- Roof-mounted & rated capacity of > 5 kW & serving single or multiple lots or parcels

Small SES

- ≤ 5 kW & serving single parcel or lot

Update Zoning Code

Siting: Determine which zoning districts to permit each defined system



Example: Model Solar Zoning Law

- Roof-mounted systems are permitted as an accessory use in **all zoning districts** when attached to lawfully permitted principal and accessory structures, subject to requirements.

- Ground-mounted solar energy systems that use electricity on site are permitted as an accessory structure **in [*Insert district(s)*],** subject to the requirements.

- Large-scale solar energy systems are permitted through the issuance of a special-use permit **within [*Insert district(s)*]** subject to requirements.

Amending District Use Regulations to Allow Solar

Land Uses Allowed in Districts As:

1. Principal Use
2. Accessory Use
3. Secondary Use
4. Special Use

1. Solar as Principal Use

2. Solar as Accessory Use/Structure

3. Solar as Secondary Use

4. Solar as Special Use

Example: Model Solar Zoning Law

- Roof-mounted systems are permitted as an **accessory use** in all zoning districts when attached to lawfully permitted principal and accessory structures, subject to the requirements.

- Ground-mounted solar energy systems are permitted as an **accessory structure** in [*Insert district(s)*], subject to the requirements.

- Large-scale solar energy systems are permitted through the issuance of a **special-use permit** within **[***Insert district(s*)**]** subject to requirements.

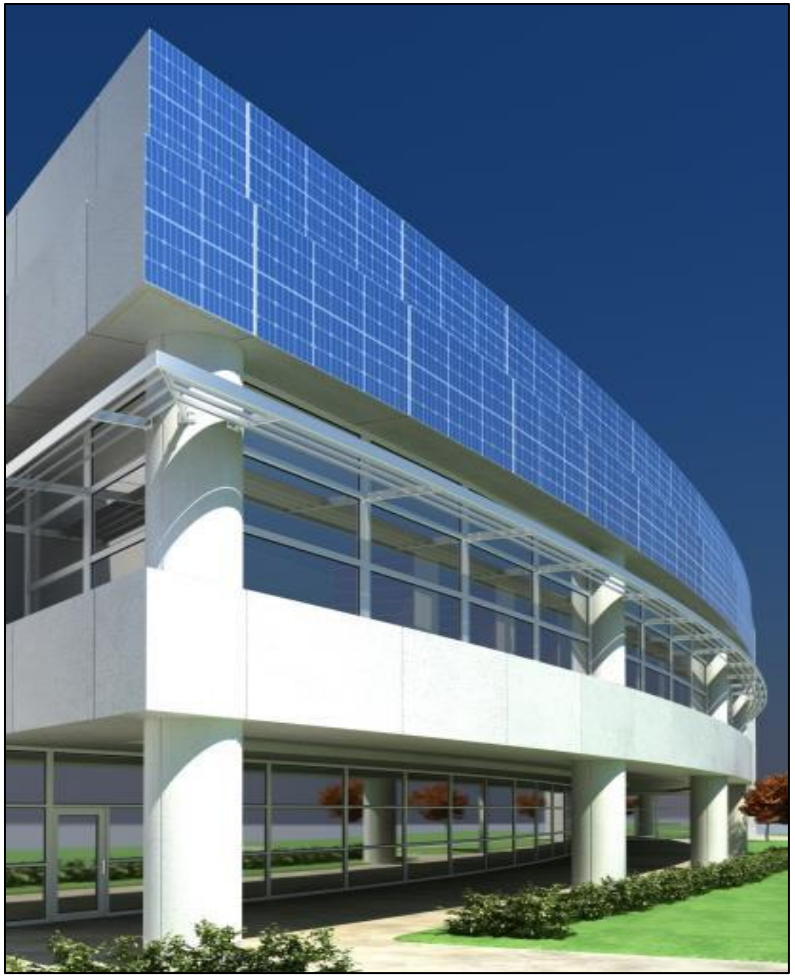
Review and Approval Process

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

Land Use Review Options

For Building-Integrated:

- Building parts exempt from land use review
- Subject to building code compliance



Land Use Review Options

For Small-Scale, Accessory Systems:

- Review by Zoning Enforcement Officer

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

Land Use Review Options

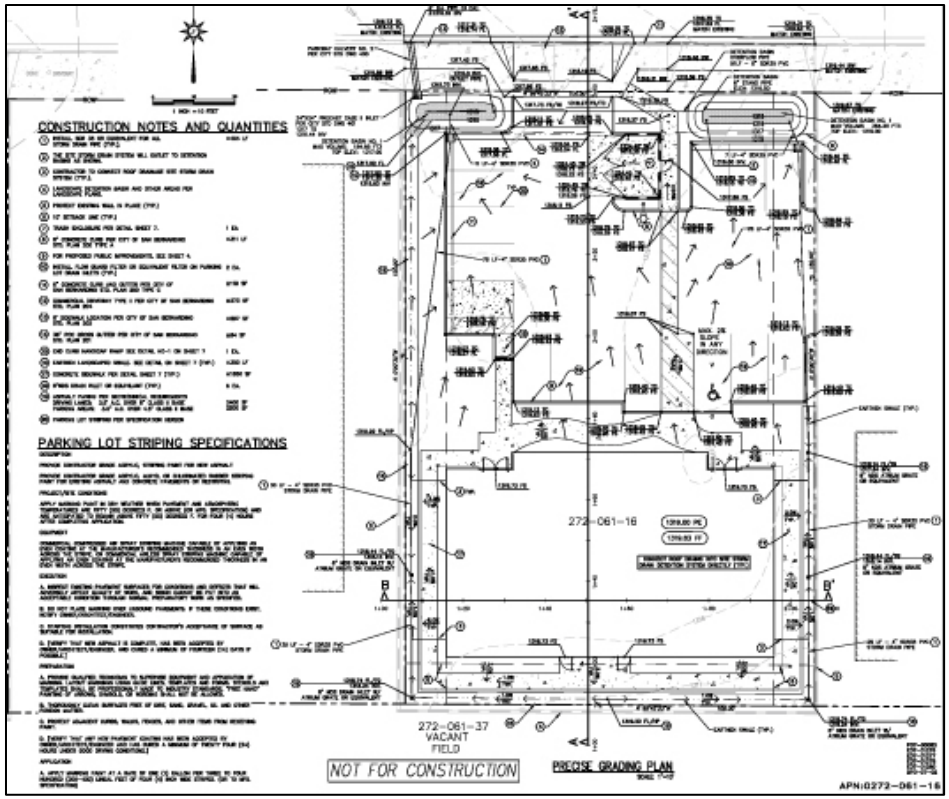
For Larger Systems with Greater Impacts:

- Major & Minor Site Plan Review
- Special Use Permit Review

Amending Site Plan Requirements

Major Site Plan Review

Minor Site Plan Review



Example

Minor Site Plan Review for:

- Ground-mounted
- Between 2,000 sq.ft. & 10 acres in size

Preliminary & Final Site Plan Review for:

- > 10 acres in size
- Site plan must include: transmission line/equipment location, changes to existing substations, how facility will connect to grid, landscape maintenance plan, decommissioning plan, etc.

Example: Model Solar Zoning Law

- Roof-mounted systems are permitted as an **accessory use** in all zoning districts when attached to lawfully permitted principal and accessory structures, subject to the requirements.

- Ground-mounted solar energy systems are permitted as an **accessory structure** in [*Insert district(s)*], subject to the requirements.

- Large-scale solar energy systems are permitted through the issuance of a **special-use permit** within **[***Insert district(s*)**]** subject to requirements.
  - **Site plan** approval is required. *WAIVERS* permitted.

Reviewing Bulk & Area Requirements

Sec.	District	Maximum Height		Minimum Requirements			Minimum Yards (7)			
		Ft.	Sty.	Lot Area Sq. Ft.	Lot Width	Lot Depth	Front Depth	Each Side Yard	Total Both Sides	Rear Depth
1	R-1 Single Family Residential	35	2.5	20,000	100'	100'	30'	10'	30'	30'
2	R-2 Two-Family Residential	35	2.5	7,000	50'	100'	20'	6'	16'	20'
3	R-3 Multi-Family Residential	40	4	1 Family: 7,000	50'	100'	20'	1,2,2.5 story: 6'	16'	20'
				2 Family: 3,000@DU(1)	40'					
				3+Family: 1,500@DU	40'					
7	C-3 Commercial			Town House: 2,000(2)	18'			3 or 4 story: 15'	30'	20'
4	B-1 Neighborhood Business	35(3)	2.5(3)	For Dwls: same as R-3 Other Bldgs: -- --- ---			50'	Note (4)		
5	C-1 General Commercial	40(3)	3(3)				50'	Note (4)		
6	C-2 Central Commercial	45(3)	3					Note (4)		
8	M-1 Light Industrial	45(3)	3	(11) 1500 @DU	None	None	50'	20'	50'	None(5)
9	M-2 Heavy Industrial	125(6)	--	(11) 1500 @DU	None	None	50'	20'	50'	None(5)
10	FW Flodway	No Building Permitted		None	None	None	No Building Execpt Utility			
10	FF Flod-Fringe	Development shall be undertaken in strict compliance with flood-proofing and related provisions contained in all other applicable codes and ordinances.								

Example: Model Solar Zoning Law

Roof-mounted systems:

- Height and setback requirements from underlying zoning
  - Height exemptions granted to building-mounted mechanical devices or equipment apply

Ground-mounted systems:

- Size: Systems are limited to [Insert Lot Coverage Percentage].
  - Panel surface area shall be included in total lot coverage
- Setback & Height: Requirements of the zoning district.
- Location: Installed in rear or side yards (residential districts only)

Example: Model Solar Zoning Law

Large-scale solar energy systems:

- Height and Setback:
  - requirements of the underlying zoning district.
  - Additional restrictions may be imposed during the special-use permit process.

- Minimum lot size of [Insert Size Requirement] square feet.

- Size: Systems are limited to [Insert Lot Coverage Percentage].
  - Panel surface area shall be included in total lot coverage

Development Standards

Some municipalities impose specific development standards to mitigate land use impacts associated with solar energy system

Development Standards for Accessory SESs

Roof-Mounted:

- Max height
- Min tilt, angle
- Color & location restrictions

Ground-Mounted:

- Setback, yard requirements
- Max height
- Blending or screening

Development Standards for Principal-Use SESs

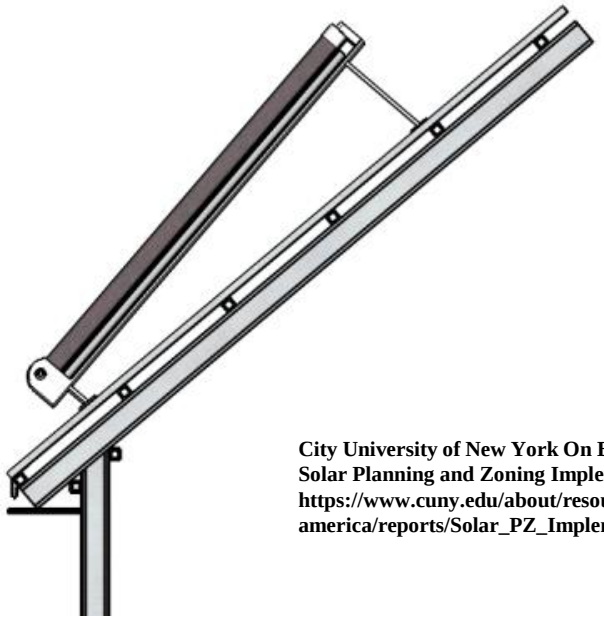
Requirements To Mitigate Impacts:

- Siting
- Height Limits
- Setbacks
- Screening
- Safety (fencing, signage)
- Utility Interconnection
- Required Studies (environmental, economic)
- Decommissioning/Site Restoration

Example: Model Solar Zoning Law

1) Aesthetics. Roof-Mounted Solar Energy System installations shall incorporate, when feasible, the following design requirements:

Panels facing the front yard must be mounted at the same angle as the roof's surface with a maximum distance of 18 inches between the roof and highest edge of the system.



City University of New York On Behalf of New York City Solar Planning and Zoning Implementation Guide, Available at https://www.cuny.edu/about/resources/sustainability/solar-america/reports/Solar_PZ_Implementation_Guide_FINAL.pdf

Example: Model Solar Zoning Law

Municipalities particularly concerned with aesthetics may also consider adding the following provisions:

- *Solar Panels affixed to a flat roof shall be placed below the line of sight from a public right of way.*
- *Solar Energy Equipment shall be installed inside walls and attic spaces to reduce their visual impact.*
- *If Solar Energy Equipment is visible from a public right of way, it shall be compatible with the color scheme of the underlying structure.*

Example: Model Solar Zoning Law

Large Scale System

- Enclosed by fencing to prevent unauthorized access.
- Warning signs with the owner's contact information
- Other requirements:
  - Copies of easements and other agreements,
  - Blueprints showing the layout of the solar installation signed by a Professional Engineer or Registered Architect, equipment specification sheets,
  - Property Operation and Maintenance Plan, and Decommissioning Plan.

Abandonment & Decommissioning

Decommissioning Plan

- *How the removal of all infrastructure and the remediation of soil and vegetation shall be conducted to return the parcel to its original state*
- *Expected timeline for execution*
- *Cost estimate detailing the projected cost*
- *If not decommissioned, the municipality may remove the system and restore the property and impose a lien*

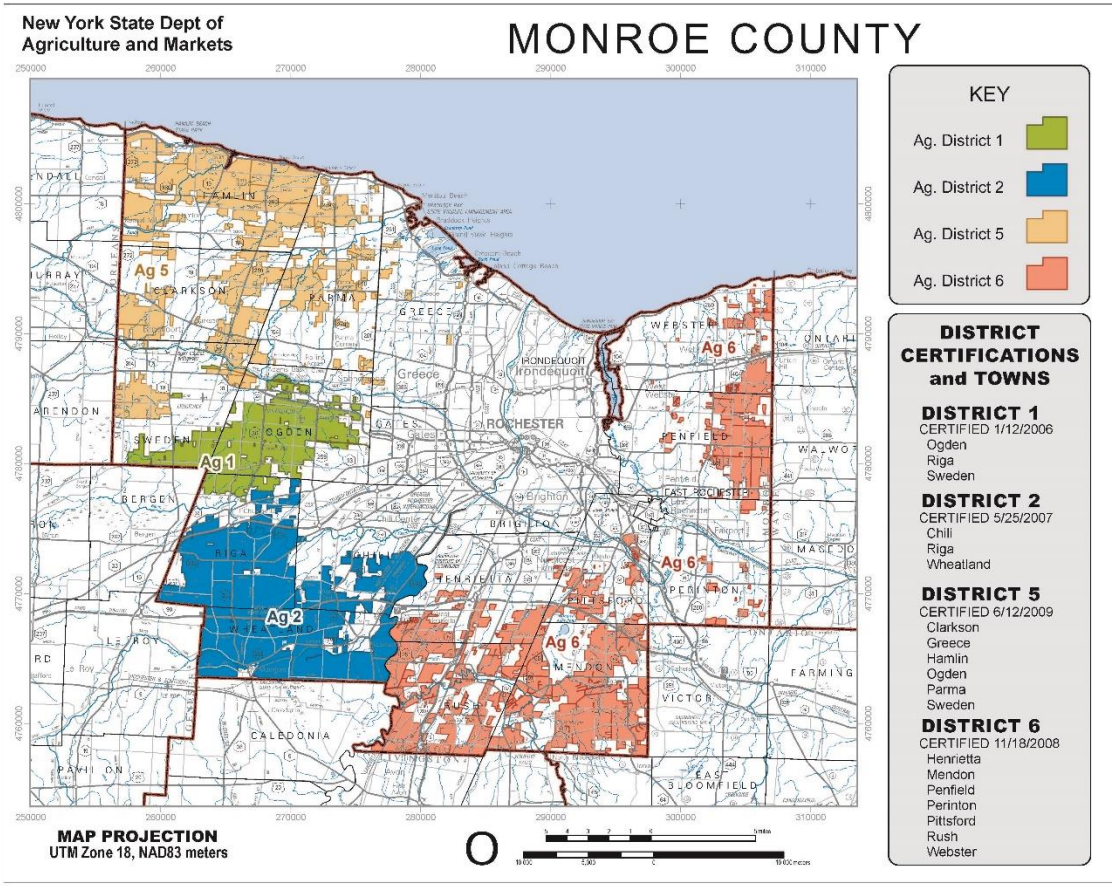
Abandonment

- *Considered abandoned after [Insert Time Period] without electrical energy generation and must be removed from the property. Applications for extensions.*

Special Districts

Agricultural Districts

- **AUTHORITY:** Article 25-AA of the Agriculture and Markets Law
- **PROCESS:** Landowner initiates, preliminary county review, state certification, and county adoption
- **COVERAGE:**
  - 224 agricultural districts
  - 24,130 farms
  - 8.8 million acres
  - about 30 percent of the State's total land area



Farmer Benefits & Protections

- Preferential real property tax treatment

- Protections against
  - overly restrictive local laws
  - government funded acquisition or construction projects
  - private nuisance suits involving agricultural practices

Benefits & Protections for Solar

- Solar devices that do not exceed 110% of the farm's anticipated electrical needs are on-farm equipment.
  - If considered structure or building by local government, then it is an on-farm building.
  - On farm buildings are exempt from some local land use requirements, such as site plan review.

Generally Unreasonable Local Laws

- Site plan review, special use permits or non-conforming use requirements
- Height restrictions and excessive setbacks from buildings and property lines
- Long Environmental Assessment Form (EAF)
  - Designated Type II actions & do not require preparation of EAF and are not subject SEQR
- Visual impact assessments

Reasonable Local Laws

- Model streamlined site plan review process
  - Shorter Time Period
  - Less Submission Requirements
- Building Permit
  - Requirements for local building permits and certificates of occupancy to ensure that health and safety requirements are met are also generally not unreasonably restrictive.

Recommended Process for Review

- Sketch of the parcel on a location map (e.g., tax map) showing boundaries and existing features
- Show the proposed location and arrangement on the site
- Copies of plans or drawings prepared by the manufacturer
- Provide a description of the project and a narrative of the intended use
- A legible electrical diagram showing all major system components

Agricultural District Resources

Agricultural Districts Website

http://www.agriculture.ny.gov/ap/agservices/agdistricts.html

Guideline for Review of Local Zoning and Planning Laws

http://www.agriculture.ny.gov/ap/agservices/guidancedocuments/305-aZoningGuidelines.pdf

Guideline for Review of Local Laws Affecting Small Wind Energy Production Facilities and Solar Devices

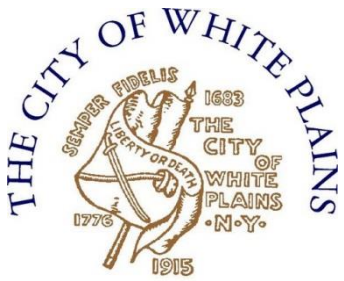
http://www.agriculture.ny.gov/ap/agservices/guidancedocuments/Guidelines_for_Solar_and_Small_Wind_Energy_Facilities.pdf

Landowner Considerations for Solar Land Leases

http://www.agriculture.ny.gov/FactSheet/Solar_Land_Leases.pdf

Review by Additional Local Boards

Example



SES <u>exempt</u> from design review if:

- On 1- or 2-family structures w/o variance
- Rated capacity ≤ 12 kW
- Mounted parallel to roof or with minimal tilt

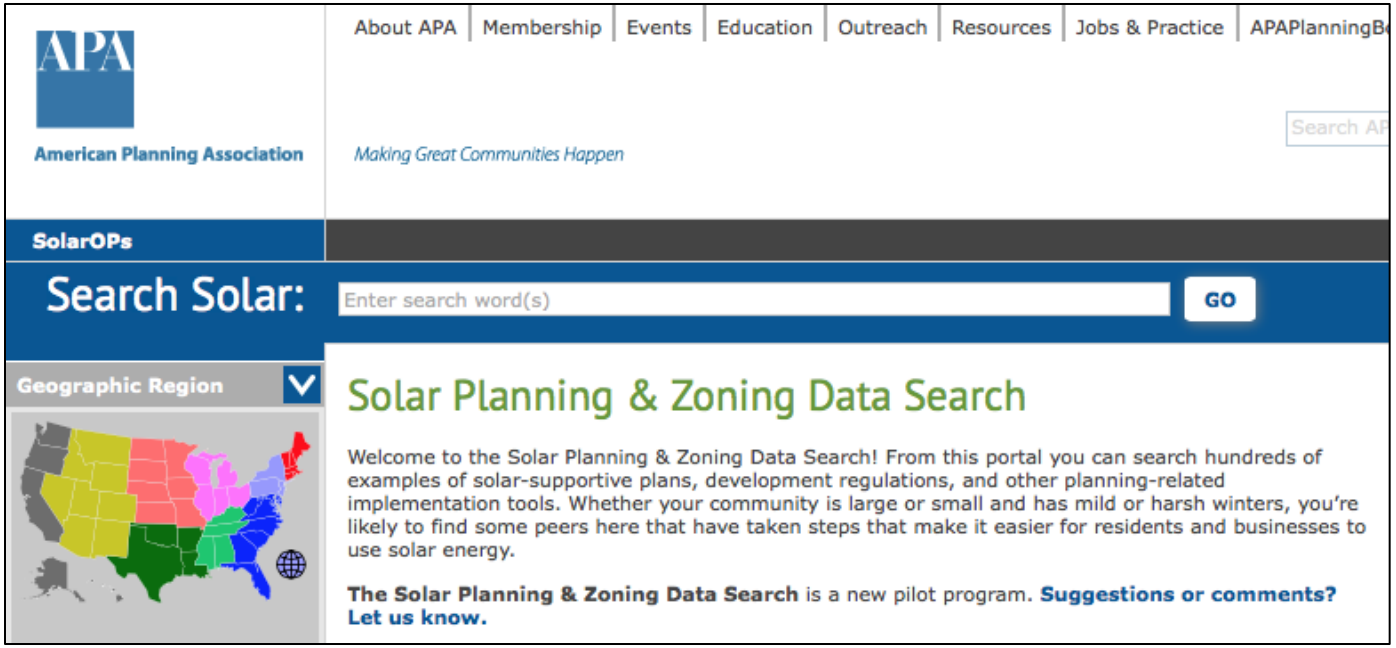
Review by Additional Local Boards

Example: Historic Standards

Solar in Historic Districts or Treatment of individual historic properties

- Solar panels and BIPV systems are permitted by right on accessory structures that do not contribute to the historic significance of the site.
- Solar panels shall not alter a historic site's character defining features.
- All modifications to site must be reversible to reveal the original appearance of site.
- Exposed solar energy equipment must be compatible with the underlying structure.
  - Panels shall be placed flush to the roof's surface
  - BIPV shall complement the styles and materials of the building.
- The issuance of a Certificate of Appropriateness is required by a historic review board for ground-mounted systems, BIPV, exterior improvements to all historic structures.
  - Preference given to solar panels placed on new construction or additions.
  - Ground-mounted systems shall be screened from the public right of way by fencing or vegetation

Resource: APA's Solar Planning & Zoning Data Search



www.planning.org/solar/data/

Available Training Topics

Creating and Implementing Your Solarize Campaign

Expanding Commercial Solar With a PACE Program

Introduction to Shared Solar

Introduction to Solar Policy Workshop

Land Use Planning for Solar Energy

Safety and Fire Considerations for Solar PV

Solar Procurement for Local Governments

Solar PV for Engineers and Architects

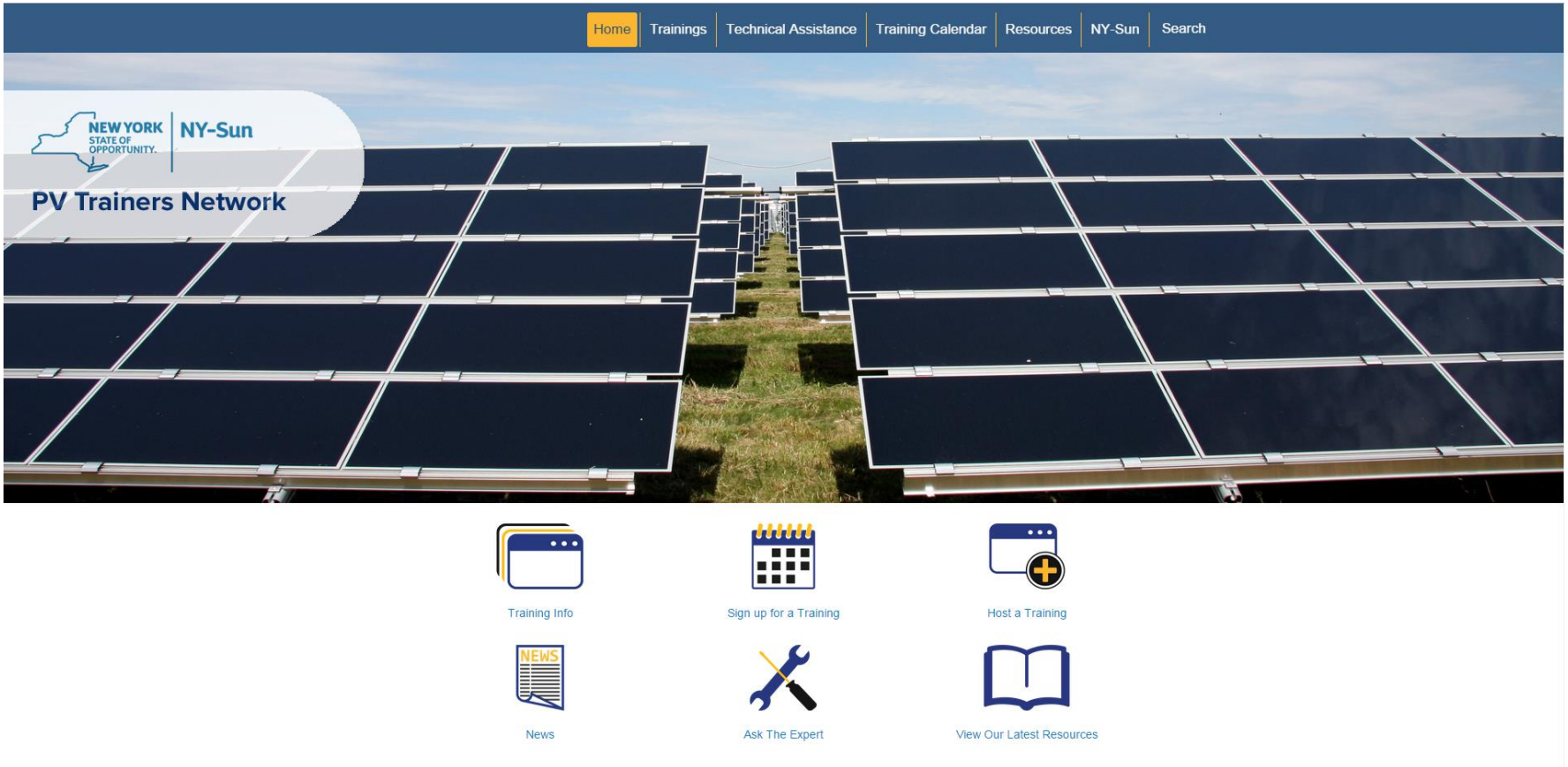
Solar PV Permitting and Inspection Methods

Streamlining Solar Permitting

Zoning for Solar Energy

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

Resources: NY-Sun PV Trainers Network



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

Free Technical Assistance Support

PVTN can provide free technical assistance to municipal officials on solar related questions/issues. Topics include:

- Municipal Solar Procurement
- Solar Zoning Ordinance
- NYS Unified Solar Permit
- Solarize
- Shared Solar
- Solar Access
- Solar Design Standards
- Real Property Tax Exemption Section 487
- Large-scale Solar Development

Submit a request via the Ask-the-Expert Portal or Contact a PVTN Expert Directly

https://training.ny-sun.ny.gov/technical-assistance/ask-the-expert

NY State Solar Guidebook

Scheduled for release in Fall 2016. Will include resources on:

- Land Use Planning and Solar
- Land Lease Considerations for Solar
- Agricultural Areas and Solar
- Developing and Reviewing Zoning Ordinance
- Solar Permitting
- Real Property Tax Law Section 487
- Decommissioning Solar
- List of other resources including webinars and online guides

Clean Energy Communities Program

$16 million available for municipalities to apply for funding and technical assistance to implement energy efficiency, renewable, and sustainable development projects

Who Can Apply

- Elected officials or employees of local governments across New York State.

How it Works

- Communities that complete 4 out of the 10 High Impact Actions and meet all other eligibility requirements.
- At no cost, Clean Energy Communities Coordinators are available to help local leaders develop proposals, apply, and provide technical assistance.

How to Apply

- Local governments must submit documentation for each of the four completed High Impact Actions.
- Local governments that earn the Clean Energy Communities designation must complete the online application for additional funding.
- Read the Clean Energy Communities Guidance Document.

Deadline

- Applications for grant funding will be reviewed until 4:00 p.m. Eastern Time on September 30, 2019, or until funds are exhausted, whichever comes first.

Contact

- cec@nyserda.ny.gov for assistance navigating the program.

http://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities

Clean Energy Communities Program

Ten Eligible Actions

1. Benchmarking energy use at municipal and large privately owned buildings.
2. Performing energy efficiency and renewable energy upgrades to municipal buildings.
3. Replacing street lights with energy-efficient LED lighting.
4. Streamlining local approval processes for solar projects through adoption of the NYS Unified Solar Permit.
5. Undertaking a community-based Solarize campaign to reduce solar project costs through joint purchasing.
6. Providing energy code enforcement training to code officers.
7. Earning Climate Smart Communities Certification by reducing the community's impact on the environment.
8. Passing a local law to allow aggregation of residents to gain greater choice and control over energy use as a group (called Community Choice Aggregation).
9. Installing electric vehicle charging stations and using alternative fuel vehicles, such as hybrid and electric cars, for municipal business.
10. Establishing an Energize NY Finance Program that enables long-term, affordable Property Assessed Clean Energy financing for energy efficiency and renewable energy projects at commercial buildings and not-for-profits.

http://www.nyserda.ny.gov/All-Programs/Programs/Clean-Energy-Communities

Thank You!

Contact us:

info@training.ny-sun.ny.gov

training.ny-sun.ny.gov

Jessica Bacher

Land Use Law Center

Pace Law School

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BACK UP SLIDES: NOT FOR PRINTING