



NYSERDA

Solar Ready Communities

Houtan Moaveni

Deputy Director, NY-Sun
NYS Interconnection Ombudsman

March 29, 2018

New York Energy Policy

- Reforming the Energy Vision (REV) is Governor Andrew Cuomo's strategy to build a clean, resilient and affordable energy system for all New Yorkers.
- Clean Energy Standard: 50% renewable energy by 2030.
- Clean Energy Fund (CEF)
 - 10-year, \$5 billion funding commitment
 - Reshapes NY's energy efficiency, renewable energy and energy innovation programs
 - Reduces the cost of clean energy
 - Accelerates the adoption of energy efficiency to reduce load
 - Increases renewable energy to meet demand
 - Mobilizes private investment in clean energy

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

Reduce Soft Costs

Approx. \$1 Billion Total Budget



Self-Sustaining Market



Statewide Goal of 3 GW by 2023

New York's Solar PV Incentive: The Megawatt Block Program

NY-Sun Incentive Program: MW Block

Three Regions:

- Con Edison (New York City and South Westchester)
- Long Island (complete)
- Upstate (Rest- of-State or ROS)

Three Sectors:

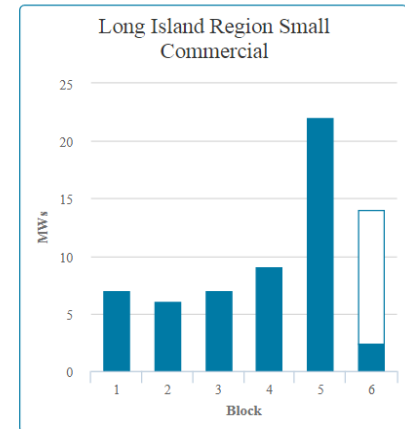
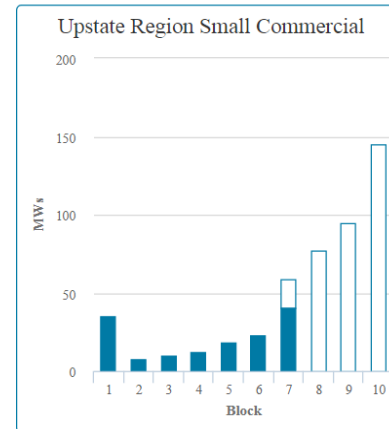
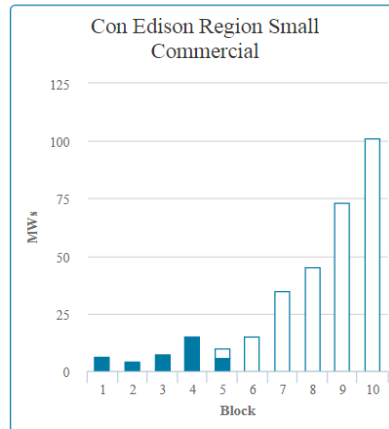
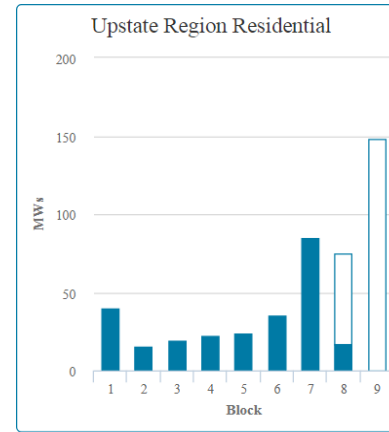
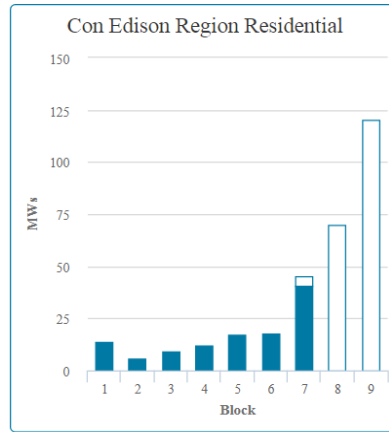
- Residential: up to 25 kW
- Small Non-residential: up to 200 kW
- Commercial/Industrial: >200 kW

Incentive is available through Dec 29, 2023, or until funds are exhausted.

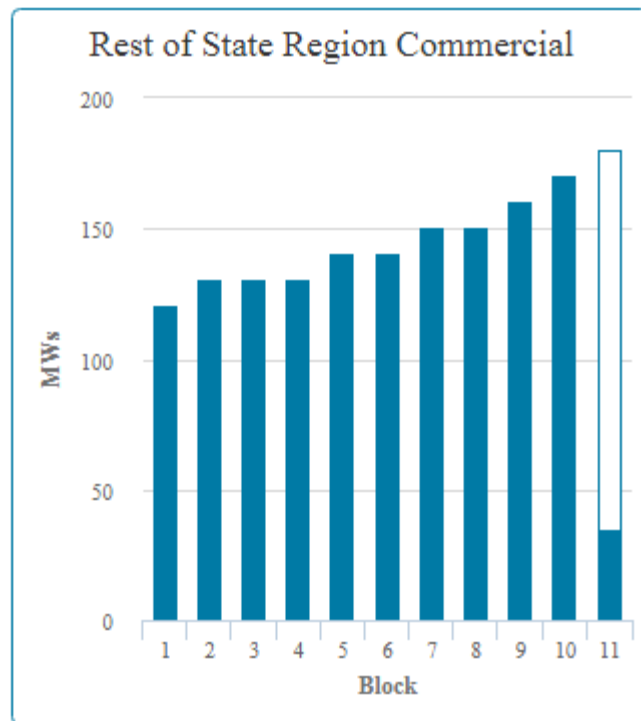
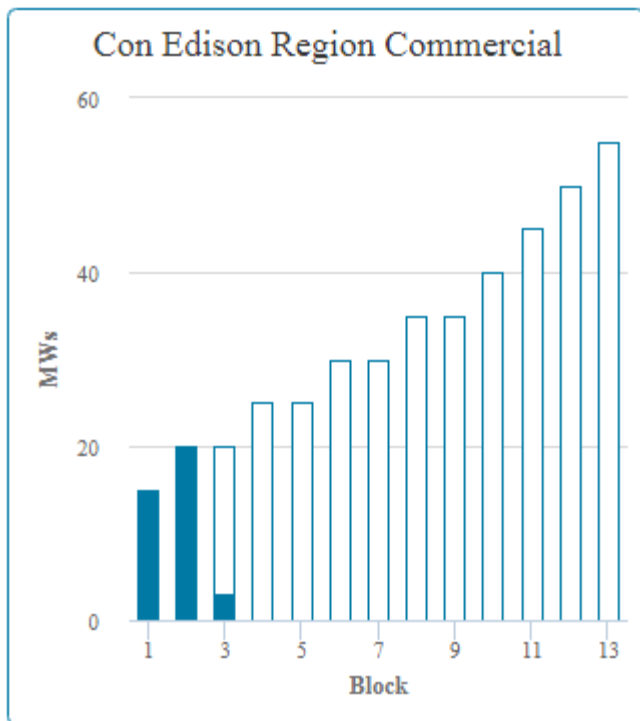
Res/Small Commercial MW Dashboard

- Incentives step down over time as capacity goals are achieved
- Real-time dashboard provides transparency and predictability
- Incentives move separately per sector and geographic region, based on actual market activity

Data as of 3/9/2018



Commercial/Industrial MW Dashboard



Data as of 3/9/2018

Community Solar in New York



Community Solar: How it Works



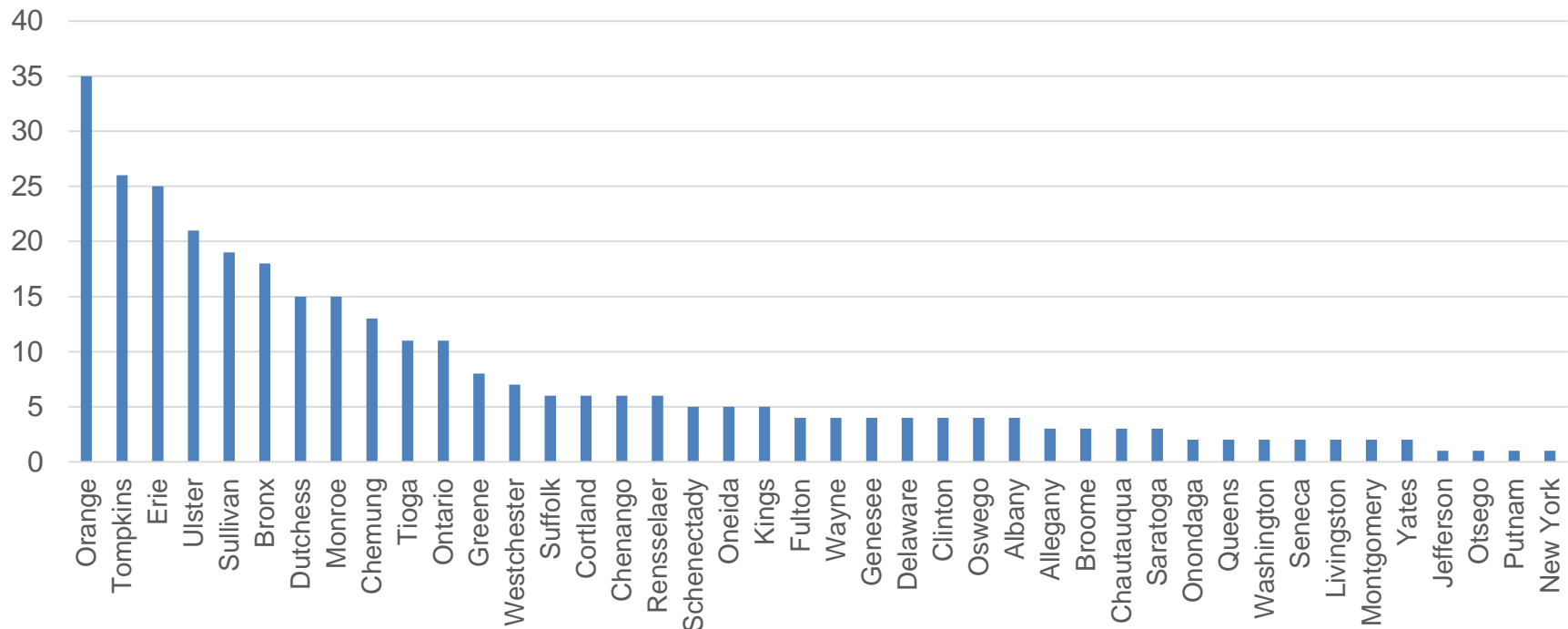
Solar electric panels are installed offsite in sunny locations to produce renewable energy for subscribing members.

Any utility customer (home or business) can be a subscribing member.



Each subscriber's utility bill is credited accordingly when excess energy is produced.

Number of Proposed CDG Projects in NY



- There are proposed community solar projects in 42 counties
- Orange, Tompkins, and Erie Counties have the most proposed projects
- The average project size is about 2 MW AC

The New York Solar Guidebook and Technical Assistance for Local Governments

NY Solar Guidebook for Local Government

•Chapter 1 - Solar PV Permitting and Inspecting in NYS

- Assists jurisdictions to streamline the solar permitting and inspection process.

Chapter 2 - Roof Top Access and Ventilation Requirements

- Describes the International Residential Code and Errata amendments as adopted by New York State.

Chapter 3 - State Environmental Quality Review (SEQR) for Large-Scale Solar Energy Systems

- Assists jurisdictions completing the SEQR process for large PV systems.

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

- Provides guidance to AHJs on property tax issues and solar systems.

NY Solar Guidebook Website:

www.nyserda.ny.gov/SolarGuidebook

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

- Provides information and tools for jurisdictions to enter payment-in-lieu-of-tax agreements.

Chapter 6 - Using Special Use Permits and Site Plan Regulations

- Provides a how-to manual with land use tools to site, plan, and zone projects on farmland.

Chapter 7 - Solar Installations in Agricultural Districts

- Provides information to AHJs and developers siting PV systems in Ag Districts.

Chapter 8 - Landowner Considerations for Solar Land Leases

- Provides guidance to landowners regarding leasing land for PV projects.

Chapter 9 - Decommissioning Solar Panel Systems

- Provides information to local governments and landowners on decommissioning large PV systems.



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Technical Assistance for Local Governments

NY-Sun offers local governments free one-on-one assistance on:

1. Adopting a Payment-In-Lieu-Of-Taxes (PILOT) law and agreement
2. Completing the SEQR process for large solar installations
3. Planning and Zoning for Solar
 - Adopting a Model Solar Energy Law
 - Siting PV in Agricultural Districts and agricultural areas
 - Updating master plans and zoning regulations
4. Municipal Solar Procurement
5. Permitting and Inspections
 - Adopting and implementing the Unified Solar Permit
 - Technical consulting to relieve administrative burdens

A PROGRAM OF NYSERDA



COMMUNITIES & LOCAL GOVERNMENTS

Guidebook for Local Governments

Technical Assistance & Support

Solarize Your Community

Affordable Solar Predevelopment and Technical Assistance

Guidebook for Local Governments

The New York Solar Guidebook has information, tools, and step-by-step instructions to support local governments managing solar energy development in their communities.

The Guidebook contains chapters on various solar energy topics, the permitting process, property taxes, and more.

You can download the full New York Solar Guidebook as a PDF or access individual chapters below.

Stay up-to-date with the latest from NY-Sun. Join our email list for local government officials.

If you have a question on getting solar in your community, or need help with a chapter of the Guidebook, solarhelp@nyserda.ny.gov and we'll respond to you within 24 hours. For more hands-on support, learn more about [our free training and technical assistance opportunities](#).

NY-Sun Solar Guidebook for Local Governments [PDF]

- > New York State Unified Solar Permit
- > Roof Top Access and Ventilation Requirements
- > State Environmental Quality Review (SEQR) for Solar
- > Understanding the Real Property Tax Law Section § 487
- > Payment-in-Lieu-of-Taxes (PILOT) Toolkit

The entire Solar Guidebook is available for download here

Municipalities can request NY-Sun technical assistance here

Ask the NY-Sun team any question about solar by sending an email to solarhelp@nyserda.ny.gov

Individual chapters are available here

nyserda.ny.gov/SolarGuidebook



NYS Real Property Tax Law § 487

NYS Real Property Tax Law § 487

- Provides a 15-year real property tax exemption for renewable energy systems
- Jurisdictions may choose to “opt out” of the RPTL § 487 exemption
 - However, opting out will 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

Solar PILOT Toolkit

Goal: To provide NYS jurisdictions all necessary resources for PILOT agreements

The PILOT Toolkit

1. Model PILOT Law/Resolution

- Provides a legal template for jurisdictions that wish to establish a formulaic, jurisdiction-wide PILOT agreement process with solar developers

2. Model PILOT Agreement

- Provides a customizable draft contract to be negotiated and signed between a jurisdiction and a solar developer

3. PILOT Calculator

- Provides guidance on appropriate PILOT rates, for both an entire jurisdiction and for an individual solar project

Model Solar Energy Law

What Is the Model Solar Energy Law?

- This Model Law is an “all-inclusive” ordinance and is intended to provide a thorough review of all aspects of solar energy systems that could be regulated.
- The Model Law gives municipalities flexibilities to choose the options that work best in some cases.
- Municipalities should review this model law, examine their local situation, and adopt the regulations that make the most sense for their municipality, deleting, modifying, or adding other provisions as appropriate.

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 2 Solar Energy Systems**
- **Section 9: Safety**
- **Section 10: Permit Time Frame and Abandonment**
- **Section 11: Enforcement**
- **Section 12: Severability**

Section 3: Definitions

System Energy System Classifications

- Tier 1 Solar Energy System:
 - Roof-Mounted
 - Building-Integrated
- Tier 2 Solar Energy System: Ground-Mounted systems that generate up to 110% of the electricity consumed on the site over the previous 12 months.
 - Either capacity-based (up to 25 kW AC) or physical size-based (up to 4,000 sq. ft.).
- Tier 3 Solar Energy System: Not included in the list for Tier 1 and Tier 2 Solar Energy System.

Tier 1 Roof-Mounted Solar Energy System



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 3 Ground-Mounted Solar Energy System



Brownfields / Landfills / Repurposed Lands



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 10 business days.
- Applications shall be subject to a public hearing and a notice shall be published in the official newspapers 5 days in advance.
- 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 62 days to take action on the application. The 62-day period may be extended.

Requirements for Approval

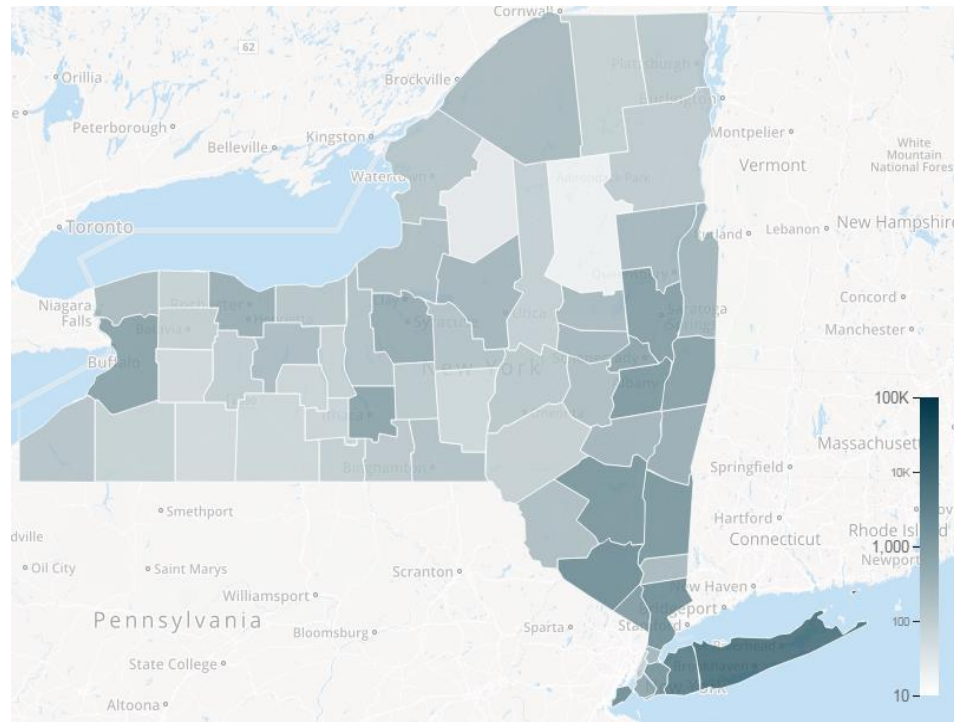
1. Underground Requirements
2. Vehicular Paths
3. Signage
4. Glare
5. Lighting
6. Tree-cutting
7. Decommissioning
8. Site Plan Application
9. Special Use Permit Standards
10. Ownership Changes

NY-Sun Progress to Date

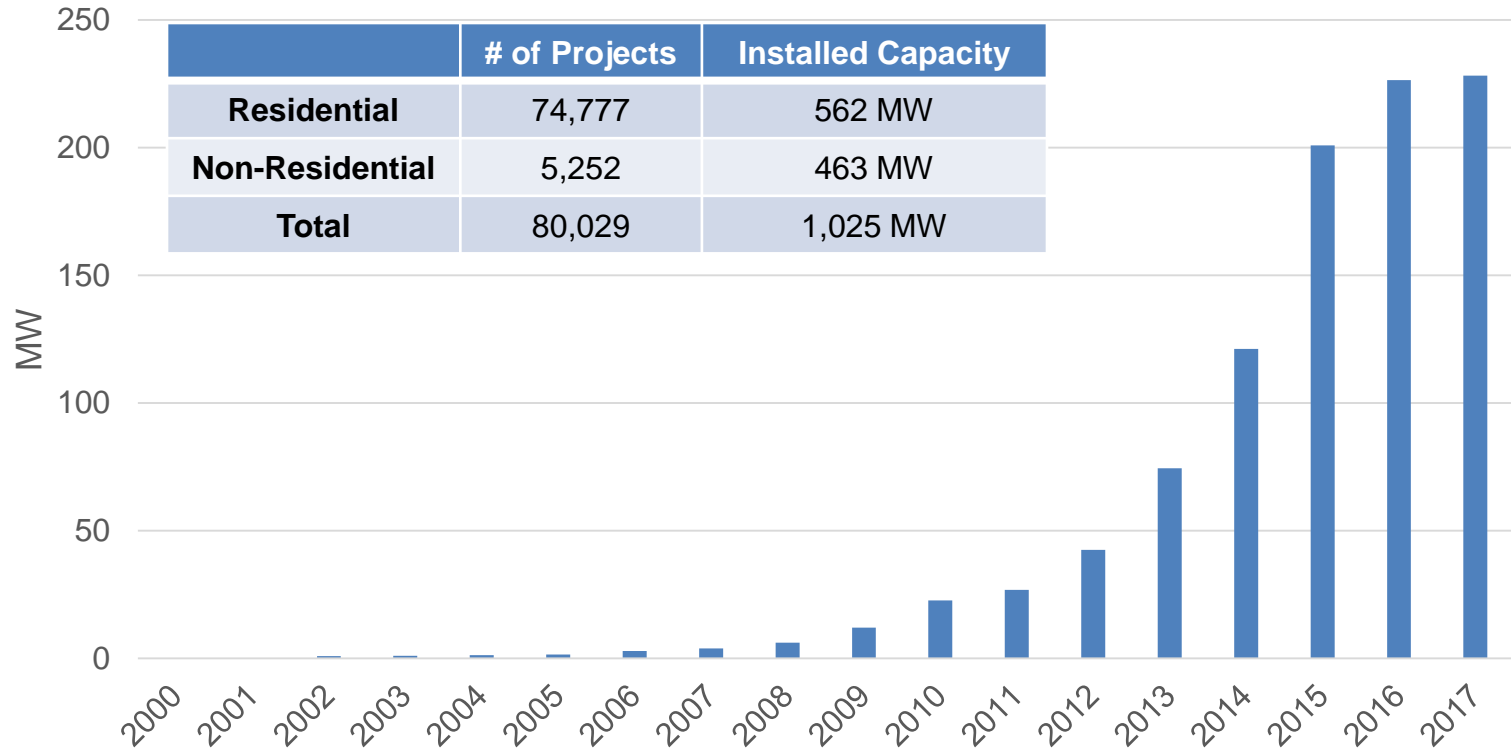
NY-Sun Progress to Date

- 1,025 MW installed statewide with NYSERDA support
 - 562 MW of residential PV (74,777 projects)
 - 463 MW of non-residential PV (5,252 projects)
- 1,064 MW currently in NY-Sun pipeline
- Installations all 62 counties and in 1,671 different zip codes

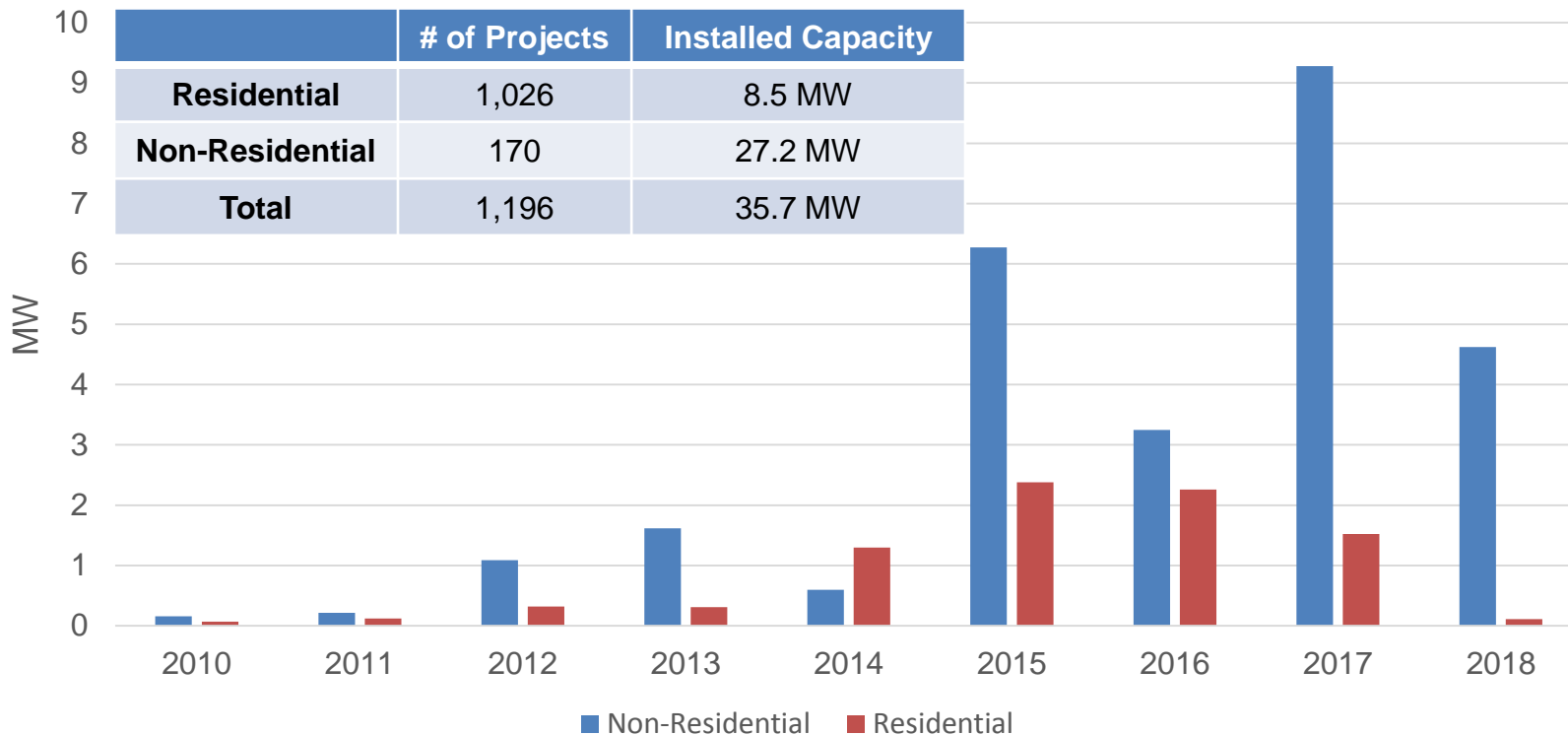
Completions by County



MW Installed Statewide by Year



MW Installed in Tug Hill Region by Year



OpenNY Data as of 3/21/18

Inclusive of all projects in Jefferson, Lewis, Oneida, and Oswego Counties



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Thank you

For additional questions, please contact me at:

Houtan.Moaveni@nyscrda.ny.gov

Sample Annual PILOT rates

- This table displays sample PILOT rates generated by Calculator One for a typical 2 MW AC solar project in each utility service territory.
- The “Low” and “High” rates represent 1% and 3% of the compensation solar projects receive for the electricity they generate.

	Low (\$/MW AC)	High (\$/MW AC)
Central Hudson	\$2,600	\$7,600
Orange & Rockland	\$3,200	\$9,500
National Grid	\$1,700	\$5,100
NYSEG	\$1,700	\$5,000
Con Edison	\$3,700	\$11,100
Rochester Gas & Electric	\$1,700	\$5,000

Solar Project Economics: A Snapshot

Expenses

1. Upfront
 - Construction + Interconnection
2. Recurring
 - Annual O&M
 - Land lease
 - Insurance
 - Inverter Replacement
 - Customer Acquisition & Management
 - Other Expenses

Revenue

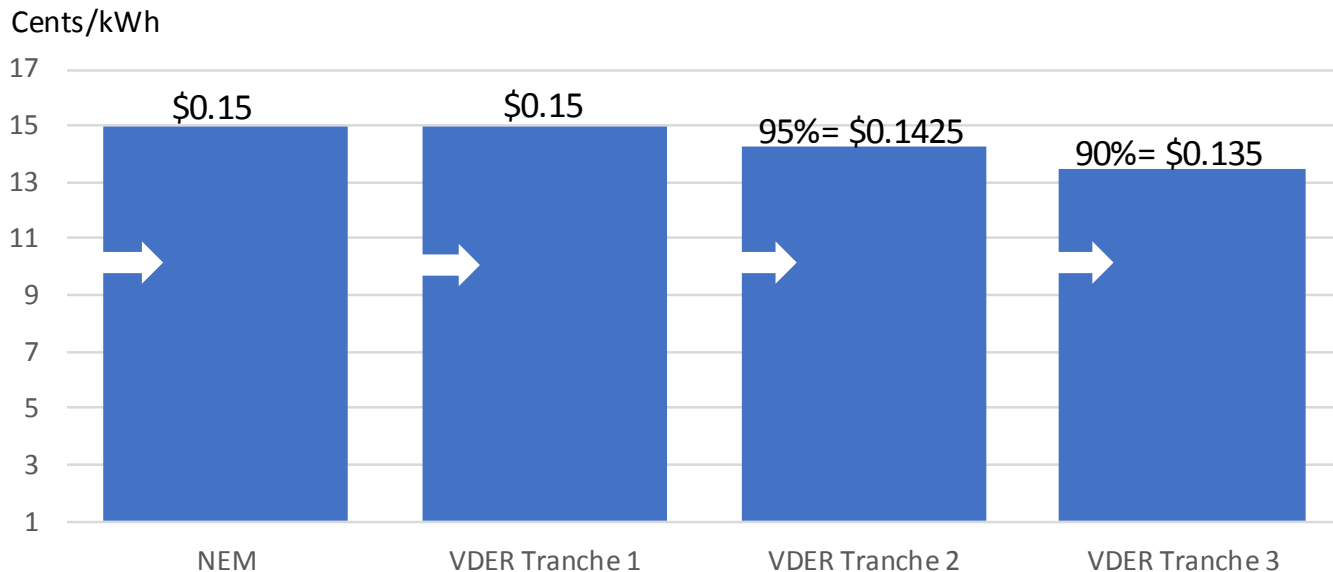
1. Electricity Sales

Incentives

1. Federal investment tax credit
2. NY-Sun incentive

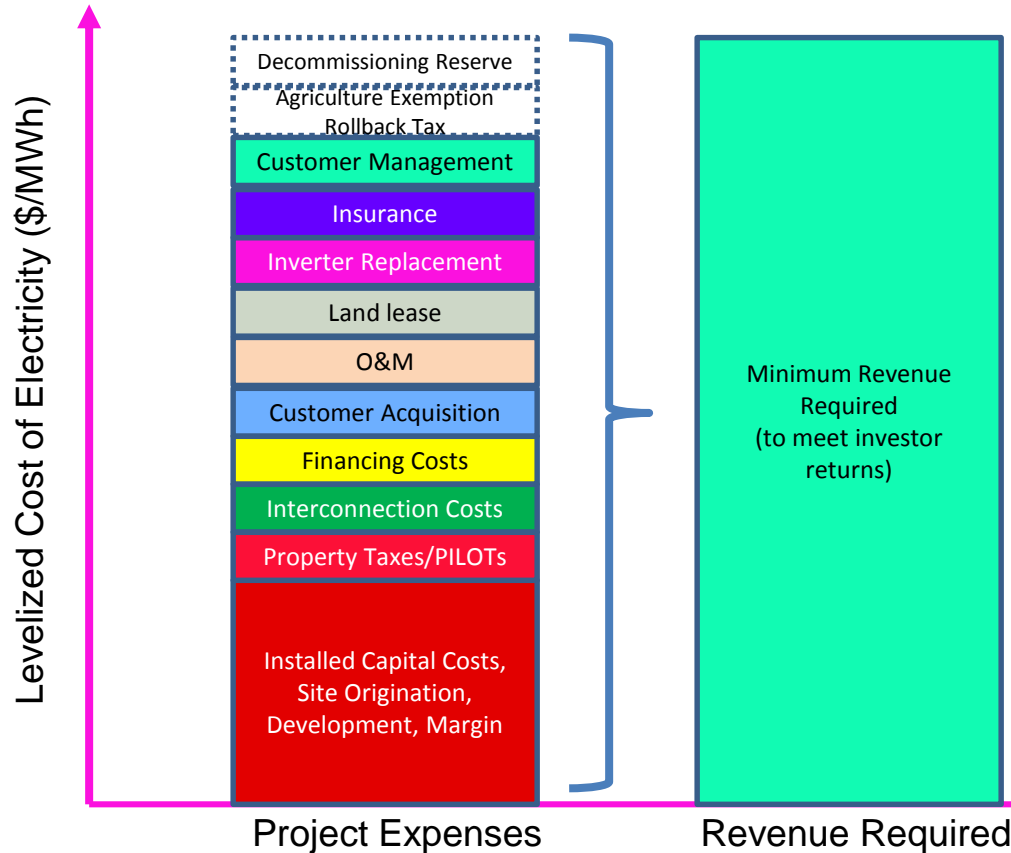
Solar Project Economics: Revenue

- Compensation for community solar projects in NYS is transitioning from Net Energy Metering (NEM) to the “Value of Distributed Energy Resources” (VDER).



(for illustrative purposes)

Project Expenses and Required Revenue



*not to scale

Section 6: Tier 1 Systems Permitting Requirements

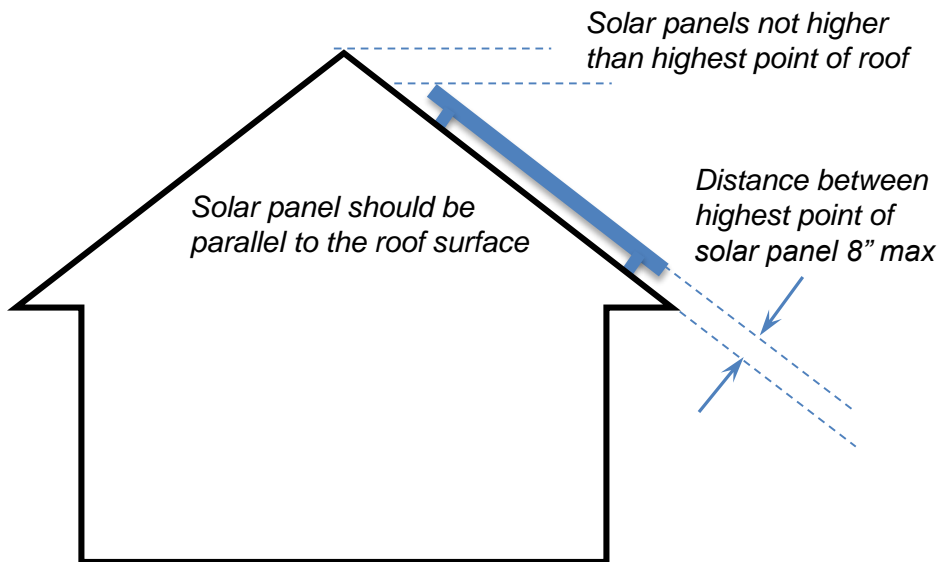
Roof-Mounted

- Incorporate designs that address placement and tilt of solar panels on pitched roof:
 - On **pitched roofs**, the solar panels shall be mounted with a max 8" between roof surface and highest point of solar system, solar panels shall be parallel to roof surface they are mounted on/ attached to, and solar panels shall not extend beyond highest point of roof surface.
 - Solar panels on **flat roofs** shall not extend beyond surrounding parapet, or more than 24" above flat roof surface, whichever is higher.
- **Glare** – All solar panels shall have anti-reflective coating(s)

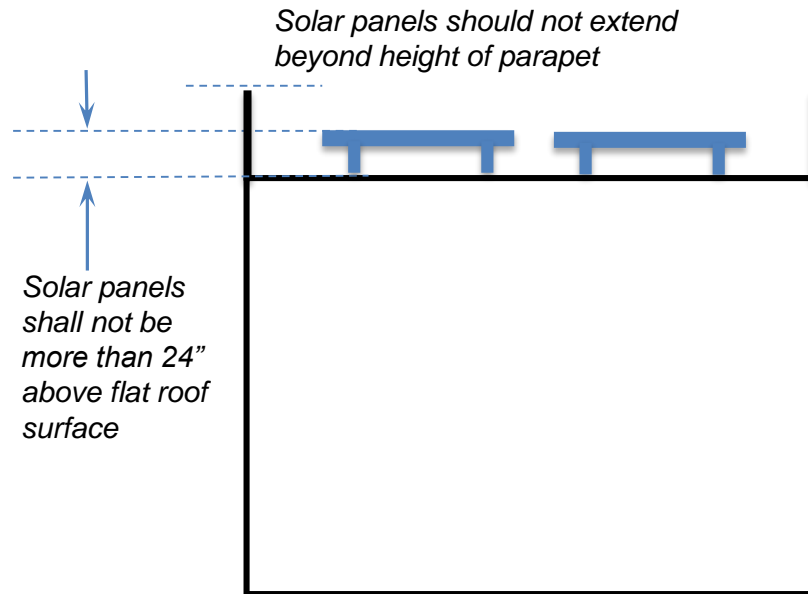


Section 6: Tier 1 Height Requirements

Pitched Roof



Flat Roof



Section 7: Tier 2 Systems Permitting Requirements

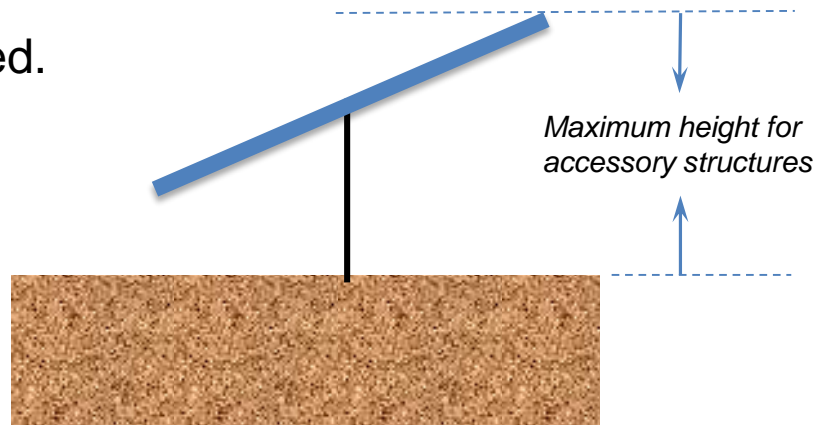
- **Glare** - All solar panels shall have anti-reflective coating(s).
- **Screening & Visibility** - Views shall be minimized from adjacent properties to the extent reasonably practicable.
- **Lot size** - Comply with the existing lot size requirement specified for accessory structures within the underlying zoning district.

Section 7: Tier 2 Height Requirements

Height (select from the following options):

- Subject to the maximum height for accessory structures.
- Follow the height limitations suggested.

Zoning District (reference only)	Height
Residential Low Density	10'
Residential High Density	10'
Commercial / Business	15'
Light Industrial	15'
Heavy Industrial	15'
Agricultural / Residential	15'



Section 7: Tier 2 Setbacks

Subject to the setback requirement of accessory structures within the underlying zoning district

