AFT and THC
Advancing Agrivoltaics in New York

Thank you for coming, we look forward to our conversation

NEW YORK STATE TUG HILL COMMISSION

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NYS Tug Hill Commission

- The Tug Hill Commission is a non-regulatory state agency with a mission **"to enable local governments, private organizations, and individuals to shape the future of the Tug Hill region, and to demonstrate and communicate ways that this can be done by other rural areas."**
- Provide technical assistance in land use planning, natural resources management, and community development
- Grassroots, system of councils of governments and circuit riders

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Non-profit founded in 1980 committed to saving America's farmland

- Protecting farmland from development
- Promoting sound farming practices
- Keeping farmers on the land

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AFT and THC Final Webinar

Today's agenda:

- Project Process
- Status of Solar in NY
- Agrivoltaics 101
- What we heard
- Related Efforts
- Thoughts for the Future
- Questions/Discussion

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Project Process

- Four community roundtables
  - ❑ Oneida County 2/26
  - ❑ Oswego County 2/27
  - ❑ Lewis County 3/26
  - ❑ Jefferson County 3/27
- Individual interviews
  - ❑ Three farmers
  - ❑ Three local officials
  - ❑ Three solar developers
  - ❑ One anti-solar citizen group member
- Synthesize notes
  - ❑ Understand farmer technical assistance needs, partner with AFT to provide technical assistance
  - ❑ Identify additional research needs/priorities – case studies
  - ❑ Share information with local governments to modify zoning laws to support agrivoltaics
  - ❑ Highlight AFT definition and identify policies
- Hold webinar on findings

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Challenges to Farming

- Development
- Extreme Weather
- Markets
- Aging farmer population
- Lack of succession planning
- Younger generation not interested
- Solar

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Why is solar development increasing?

Climate Leadership and Community Protection Act (CLCPA), 2019

Increased the Renewable Energy Standard to 70% by 2030; Double the target for distributed solar power to 6 gigawatts by 2025 and 10 gigawatts by 2030; 60 GW by 2050. Install 1.5 gigawatts of statewide energy storage capacity by 2025 and 6 gigawatts by 2030.

Accelerated Renewable Energy Growth and Community Protection Act (FY2020-21 NYS budget)

Added Section 94-c to NYS Executive Law, created Office of Renewable Energy Siting

Renewable Action through Project Interconnection and Deployment (RAPID) Act – Public Service Law Article 8 (2024)

Consolidates the environmental review, permitting, and siting of major renewable energy facilities and major electric transmission facilities under the purview of the Office of Renewable Energy Siting and Electric Transmission (ORES).

Projects 25 MW or greater go through this process

Recent federal policy changes may impact financial feasibility

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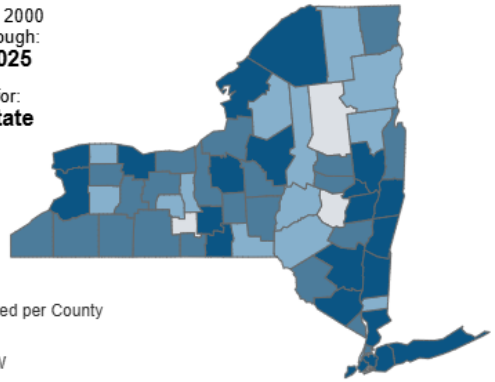
Solar Buildout to Date

Data beginning 2000
and current through:
March 31, 2025

Showing Data for:
New York State



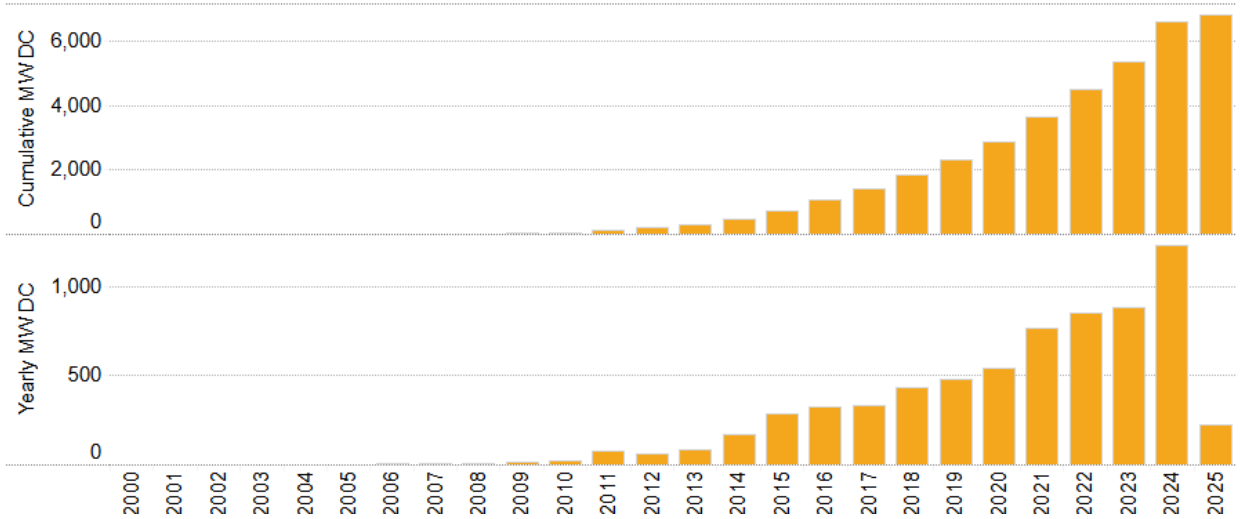
Megawatts installed per County
- 0 to 10 MW
- >10 to 50 MW
- >50 to 100 MW
- >100 MW

Total Capacity (MW DC)
6,810 MW

Number of Projects
247,981

Data Sources: NYS DPS, NYISO. Click icon for more info

Annual Trends (Completed Projects Only) Total Capacity



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Climate Act Dashboard

Overview of Progress | Climate Act Metrics

New York State's Climate Act is among the most ambitious climate laws in the nation, requiring that the State reach a multitude of quantifiable, time-based clean energy goals.

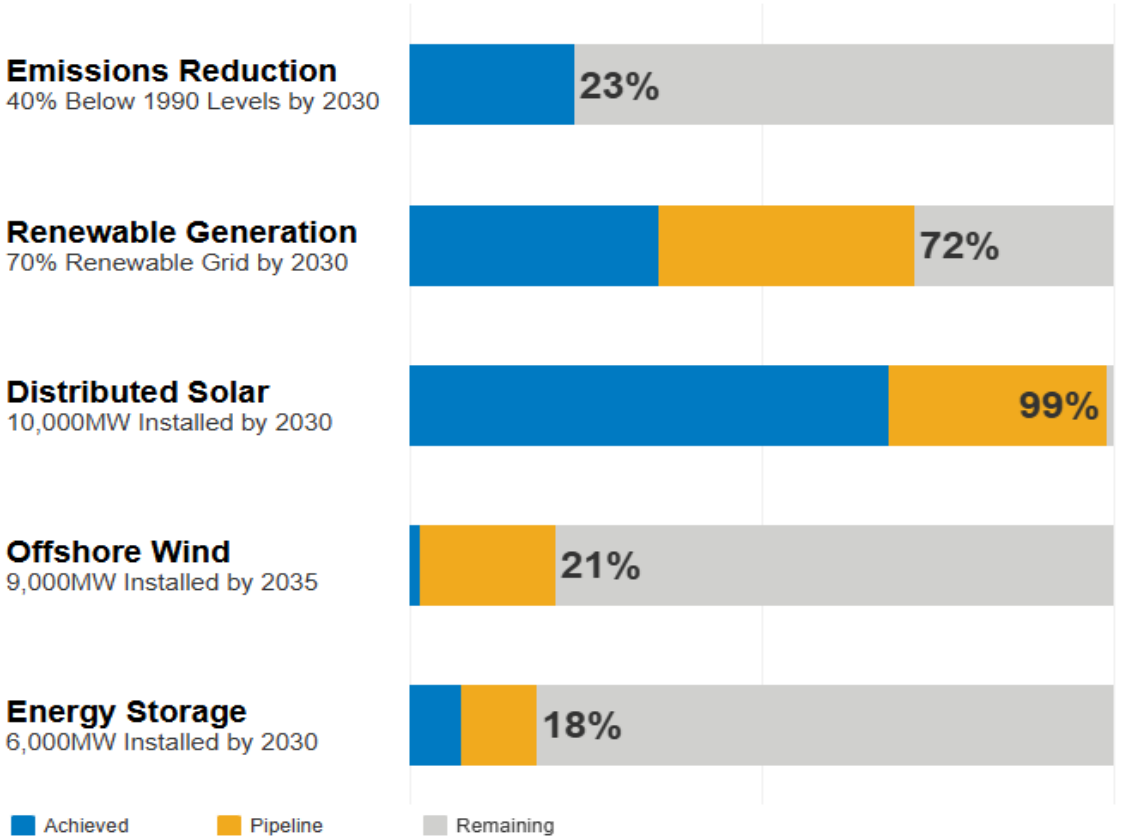
This "Climate Act Dashboard" is designed to keep New Yorkers apprised of the State's progress toward meeting those Climate Act goals. To complement the dashboard, a series of interactive stories takes the reader on a journey to discover more about the clean energy economy and how each goal addresses a critical element of the fight against climate change. Explore more with "See the Story" links in each section.

Navigating the Dashboard

Throughout the dashboard, small blue "info" buttons provide additional context simply by hovering over them. Data used to generate visuals can be downloaded where noted with a "download the data" button. A review of each goal introduction will provide more information on data sources as well as the timing of data updates.

Metrics in each section of the dashboard are updated periodically throughout the year and metrics will be added in the future to report on energy efficiency savings and disadvantaged community investment. Total Progress, often depicted throughout the dashboard as a % of progress toward goals, is represented by the sum of Achieved and Pipeline values.

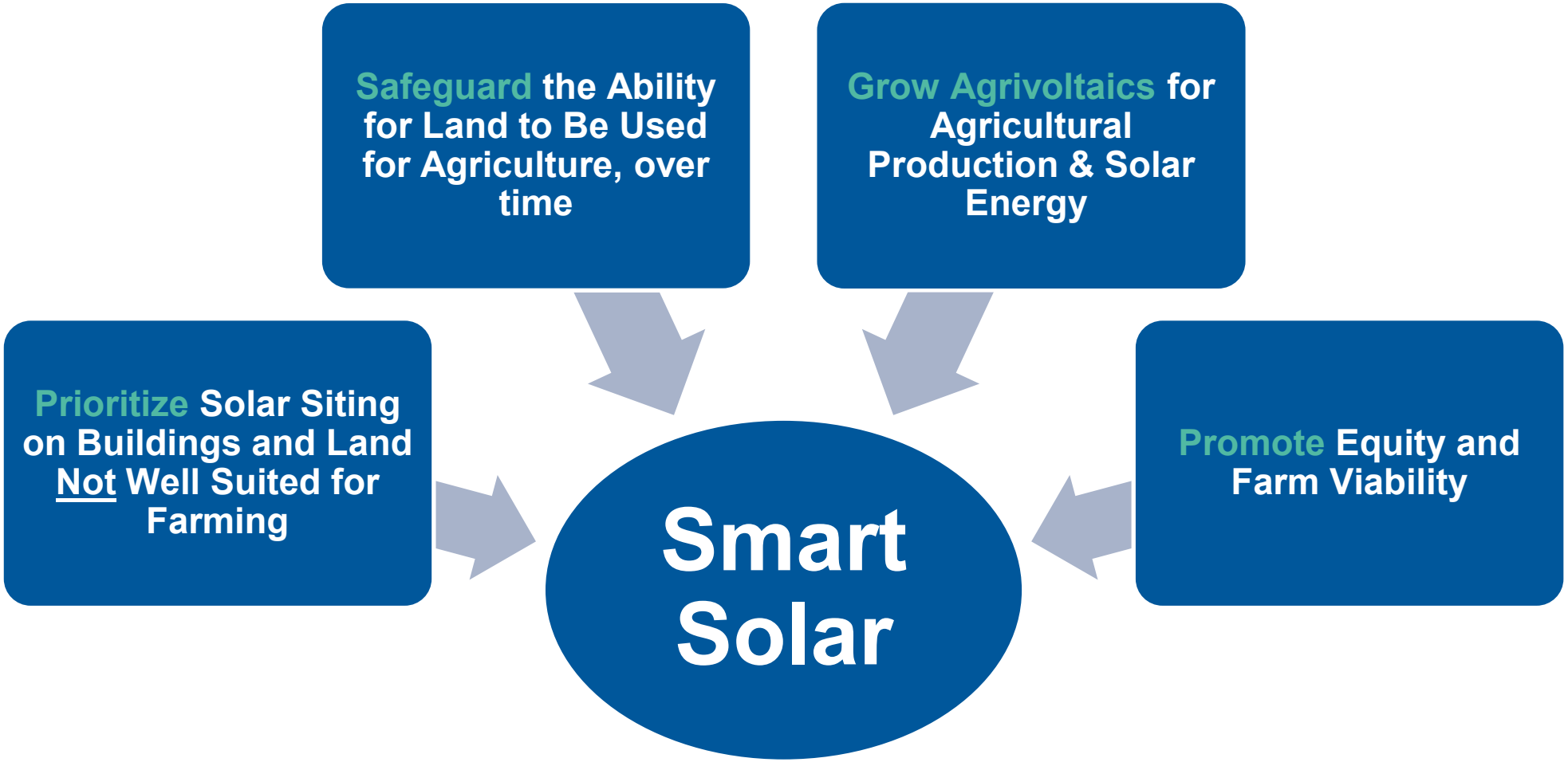
Questions or comments on the dashboard can be sent here.



Date last updated: June 6, 2025
Data through: varies by goal (see below)

Download the Data

AFT Smart Solar Principles



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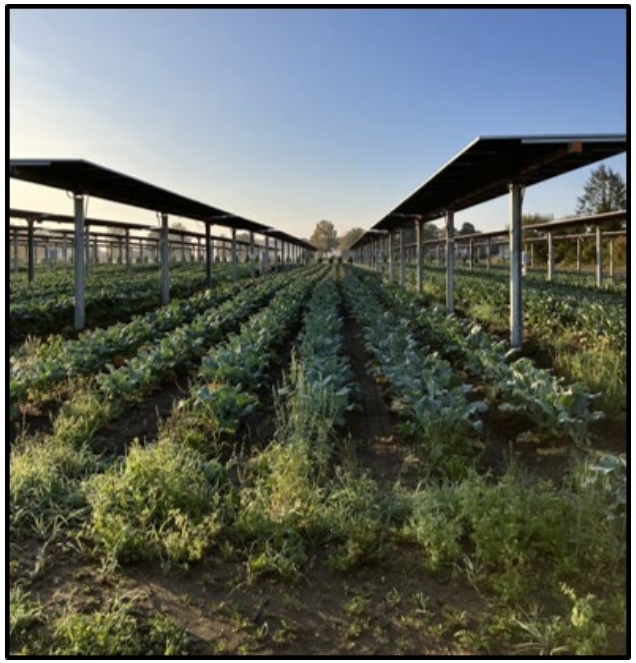
Farmer-First Solar: What is Agrivoltaics (agPV)?

NYSERDA/NYSDAM: The simultaneous use of land for solar photovoltaic power generation and agricultural production of "crops, livestock and livestock products," as defined by NYS Agriculture and Markets Law Sec 310(2).

AFT Definition: An agrivoltaic system is defined as a ground mounted photovoltaic solar energy system that has been intentionally planned and designed with agricultural producers or experts, and is constructed and operated to achieve integrated and simultaneous production of both solar energy and marketable agricultural products—including crop production, grazing, and animal husbandry—on the land beneath and/or between rows of solar panels, as soon as agronomically feasible and optimal for the agricultural producer after the commercial solar operation date and continuing until decommissioning.

Systems that include pollinator habitat or apiaries as the predominant agricultural use are excluded from this definition.

Bradley Heins



Hyperion Systems

Jack's Solar Garden

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Agrivoltaics projects sustain agricultural production underneath solar panels and/or between rows of solar panels throughout the life of the project.

- **Intentional Design & Functional** for a variety of farming practices and products (farm viability)
- **Farmer Centric, Soil Health, Water Management Focused**
- **Light penetration vs shade**
- **On-farm benefits: Flexibility with Rigor**

NREL

Jack's Solar Garden

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Integrating Ag and Solar

Win-win Scenario

- Keeps land in ag production
- Contributes to renewable energy goals
- Dedicated income stream from solar lease
- Help facilitate transfer to the next generation of farmers
- Can provide access to farmland

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Example in Northern NY

ClearPath Energy

- New Bremen, Lewis County
- 50 acres
- 64 foot spacing
- 8 foot to racking
- Haying operation
- 4,499 kW
- Single axis tracker system

- More being developed in Utica area, Central NY and Hudson Valley

- www.clearpath.energy

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What does the future of farming look like?

What would you like to see in the next 10-25 years in terms of farming in this area?

Are you experiencing solar and farming in your community? If so, in what way?

Scale of 1-5 what is your familiarity and understanding of agrivoltaics?

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What we heard - future of farming

- More locally produced products
- More small farms
- Opportunities for new and younger farmers
- Education/training for youth
- Sustainable practices
- More technical assistance

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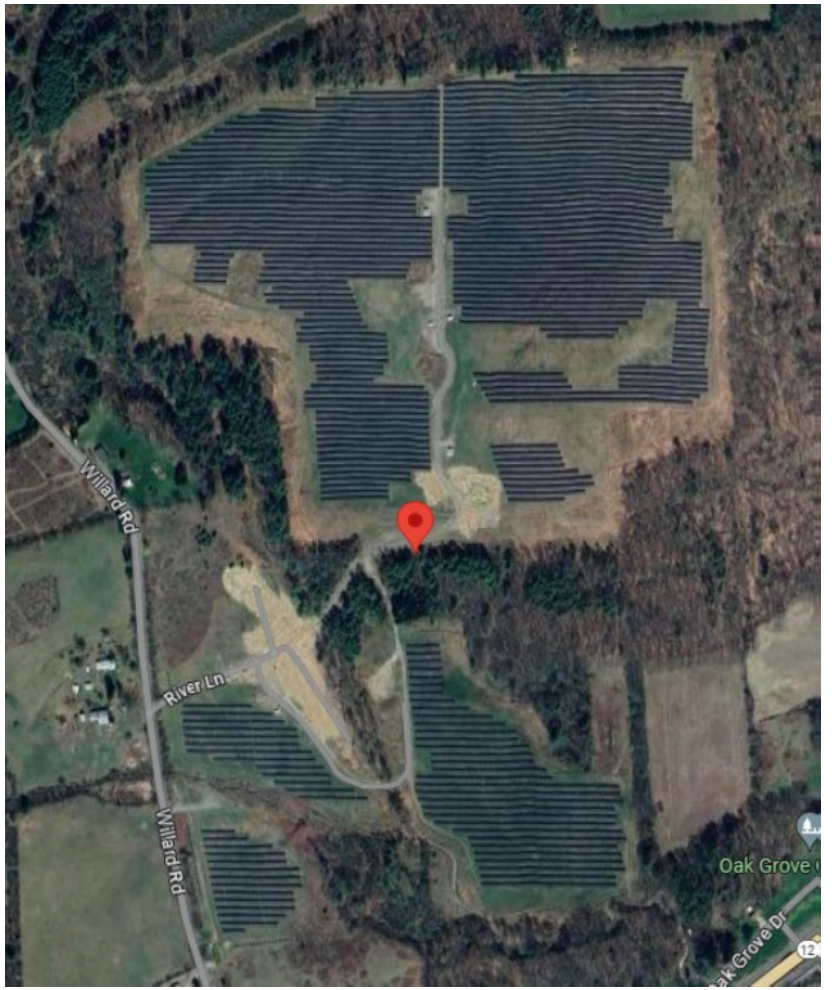
What we heard - Solar in your community

- Farmers make more money leasing to solar than farming
- Solar taking away prime farmland
- Connection capacity
- Lots of community opposition
- Don’t like how it looks
- Fears of soil contamination
- Safety and fire concerns
- Decommissioning
- Don’t trust developers



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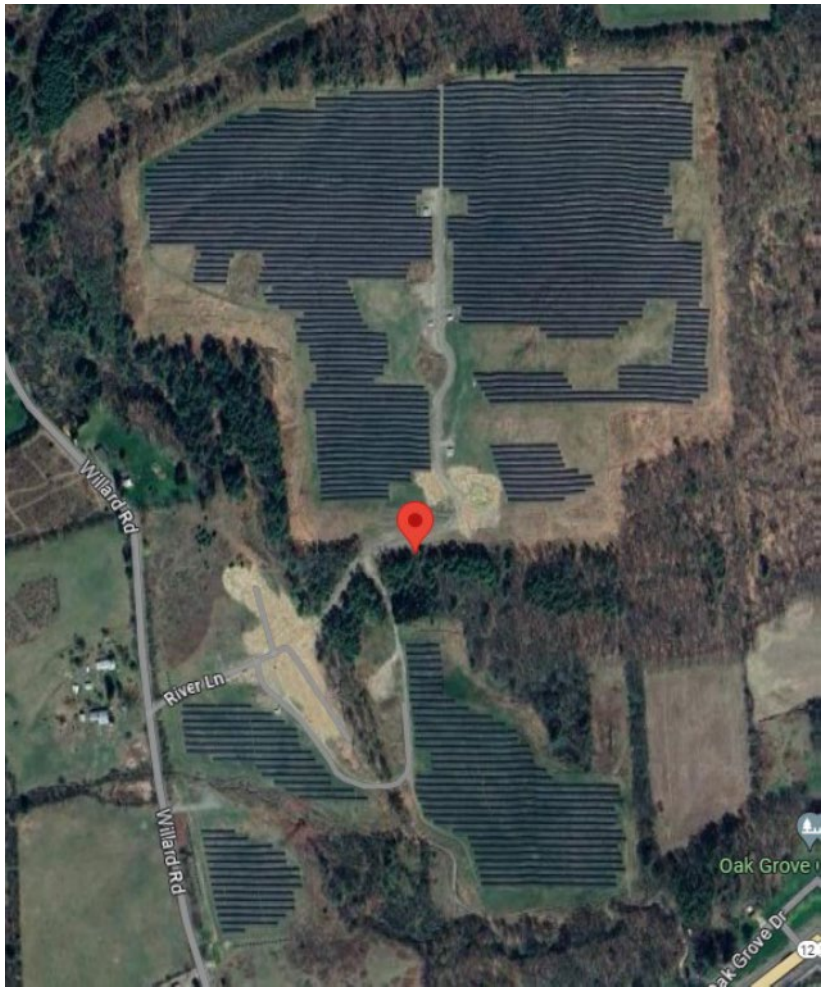
What we heard - Familiarity with Agrivoltaics

- Never heard of it to slight familiarity
- Need more outreach and education – not an option on the table
- This is what we would like to see in our communities



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Barriers to Agrivoltaics

- Awareness/outreach/education
- Professional help for farmer and municipalities
- Lack of existing projects
- Misinformation
- Connection to grid
- Insurance costs
- Ag assessments
- No incentives

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Agrivoltaics Opportunities

- Farm viability
- Land access for new and beginning farmers
- Community scale – smaller – most likely
- Relationship with developer and farmer to design farm friendly projects
- Improving infrastructure
- Create a farmer collective to spread information

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Gaps in Information

- New technology – quickly evolving
- Local land use law language
- Economic analysis – case studies
- List of vetted developers
- Crops and potential yield loss
- Opportunities for field trips
- Actual physical constraints of farming around solar panels
- Decommissioning

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Related Efforts

- Land Use Leadership Alliance – NYSERDA and Pace - renewable training for local officials
- AFT Farmer Training – new resources
- NYSERDA Pilot Agrivoltaics Project
- Cornell research
- NYSERDA Solar Guide – adding Agrivoltaics

Hyperion, LLC

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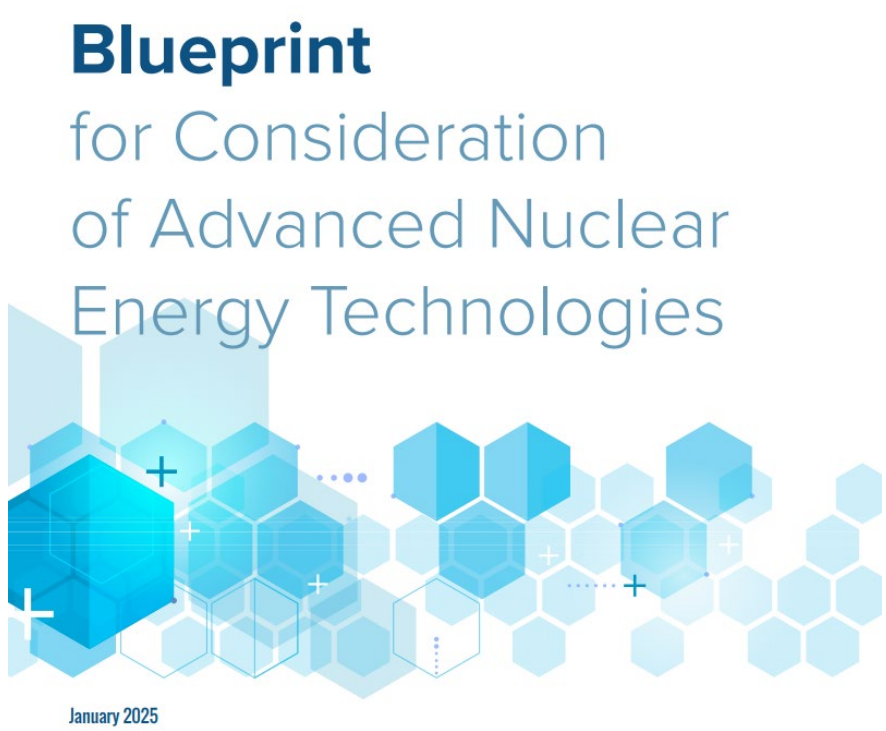
Thoughts for the future

- Federal cuts of tax credits and Executive order
- Increasing power demand – not going to make goals
- Nuclear option – Governor's NYPA GW
- Agrivoltaics if done right can be a win-win



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New York State Energy Research and Development Authority

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Questions/Discussion






L-R, T-B: NREL, Bradley Heins, Getty Images, Werner Slocum - NREL, Werner Slocum - NREL, Getty Images

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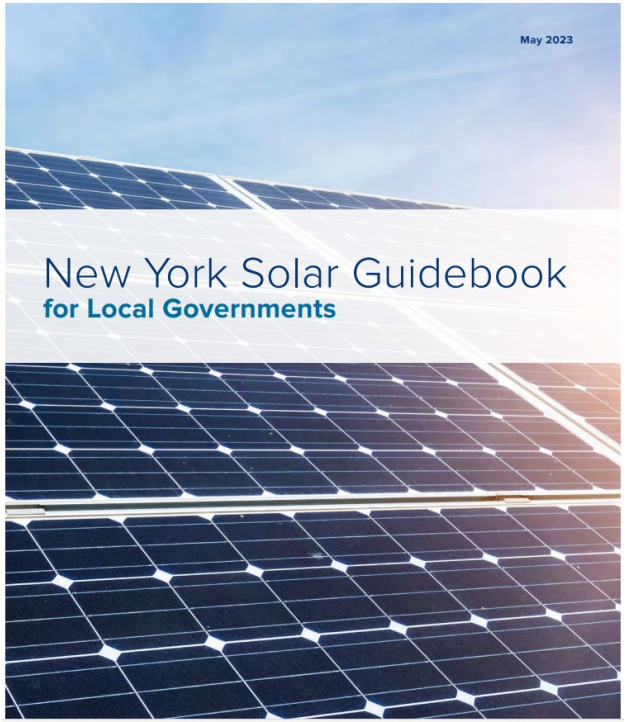
NY Resources

https://farmlandinfo.org/publications/smart-solar-siting-in-new-york-report/

https://www.nyserda.ny.gov/Agrivoltaics

https://tughill.org/publications/technical-issue-papers/



https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Resources/Solar-Guidebook

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