Local Planning and Zoning for Renewable Energy:

Scenic Hudson's How to Solar Now Toolkit   Hudson River Symposium, April 19, 2023

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OUR MISSION

Scenic Hudson brings together people and organizations to protect the natural resources at the heart of the Hudson Valley's health and prosperity.

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SCENIC HUDSON'S POSITION

- "We support the CLCPA.."

- "We support well-sited solar energy projects…"

- Vision for the Valley: To rapidly transition the Hudson Valley to a sustainable, low-carbon region increasingly powered by renewable energy in order to mitigate climate change, while protecting and preserving the region's invaluable scenic, historic, agricultural, environmental and economic resources.

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Local Law is Key to Achieving Clean Energy and Climate Goals

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WHY?

- Local zoning can help solve land use conflicts: incentivize co-location, redevelopment, agrivoltaics
- Be proactive, not reactive
- Local law adoption is a public process
- Utility scale solar projects must comply with local law
- Community solar and smaller scale projects are subject to local environmental and land use review
- But prohibitive/restrictive zoning jeopardizes RE targets

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SCOPING PLAN

- Retire fossil fuel generation and accelerate renewable energy development

- Decarbonize the energy system and meet growing electricity demand as we electrify the transportation system and built environment

- Electricity Chapter 13 strategy E.4: Support Clean Energy Siting and Community Acceptance

- Land Use Chapter 19 strategy LU8: Provide Guidance and Support on Clean Energy Siting

- Local Government Chapter 20 strategy LG 3: Provide Clean Energy Siting Support for Local Governments

Integration Analysis Technical Supplement

Figure 29. Installed Capacity and Annual Generation for Scenario 3: Accelerated Transition away from Combustion[30]

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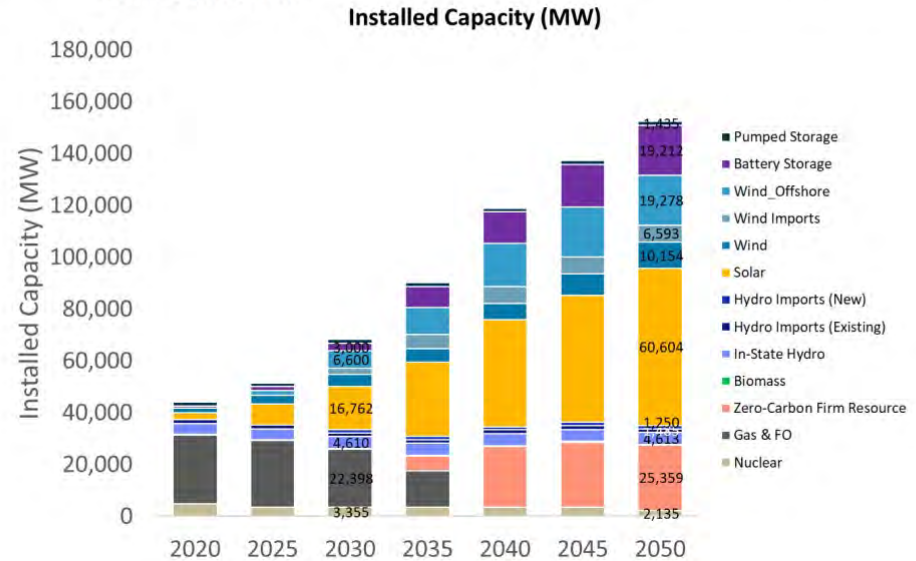
Executive Law § 94-c:
"major renewable energy facilities" >25MW

"A final siting permit may only be issued if [ORES] makes a finding that the proposed project, together with any applicable uniform and site-specific standards and conditions **would comply with applicable laws and regulations**. In making this determination, the office may elect not to apply, in whole or in part, any local law or ordinance which would otherwise be applicable if it makes a finding that, as applied to the proposed major renewable energy facility, it is unreasonably burdensome in view of the CLCPA targets and the environmental benefits of the proposed major renewable energy facility."

Renewable Energy Facilities <25MW

SEQRA:

‣ Environmental impacts have been mitigated to the "greatest extent practicable"

LOCAL LAND USE APPROVAL:

‣ Site plan approval; special use permit; building permit; incentive zoning; floating zones; overlay zones

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Scenic Hudson's How to Solar Now Toolkit

A toolkit to support stakeholder decision-making in the interest of making the Hudson Valley a regional model and leader in responding to the climate crisis.

- SITING PRINCIPLES
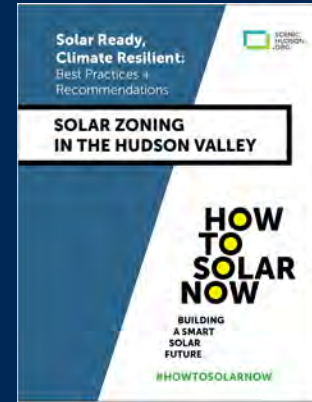- ZONING RECOMMENDATIONS
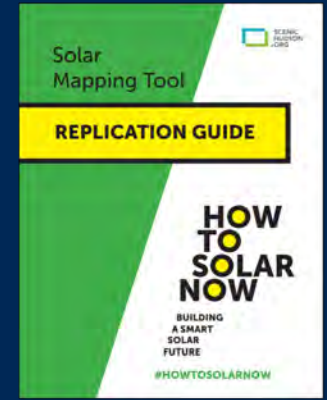- SOLAR MAPPING TOOL
- REPLICATION GUIDE

http://howtosolarnow.org/

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Solar Mapping Tool

Siting Guide

Zoning Recommendations

Mapping Tool Replication Guide

"Smart from the Start":
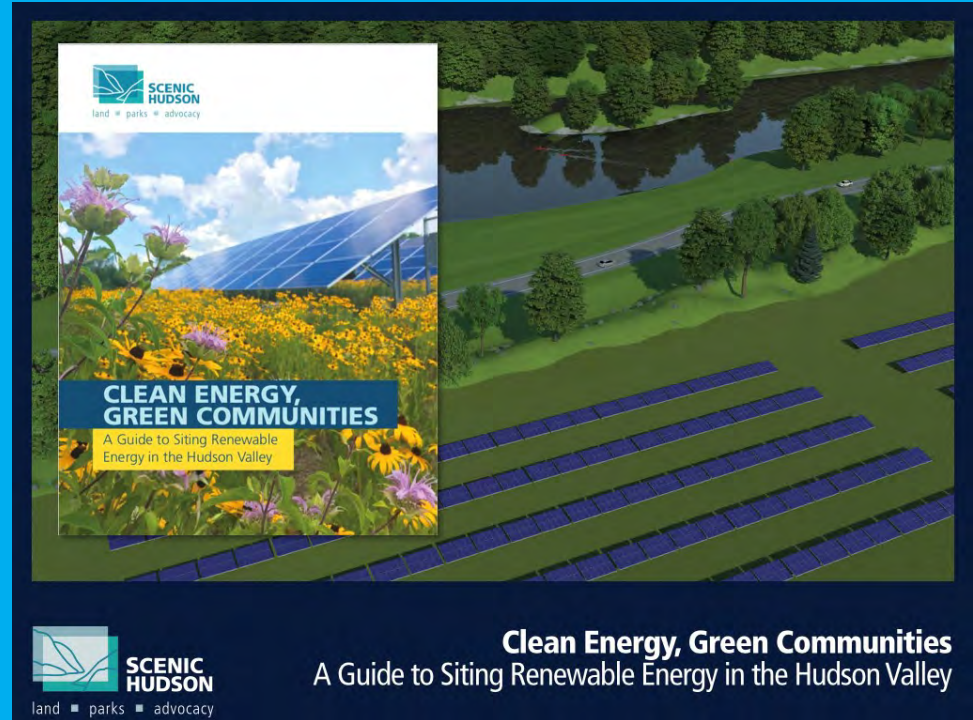**Avoid conflicts at the outset to streamline review & approvals**

Adopt clear principles & strategies for solar siting

Prioritize redevelopment & colocation

Avoid impacts to natural resources

Promote successful renewable energy development by increasing certainty & reducing costs & delays

Help achieve renewable energy goals

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Clean Energy, Green Communities
A Guide to Siting Renewable Energy in the Hudson Valley

HOW TO SOLAR NOW

HOW TO SOLAR NOW

PART I:
What's the Deal with Solar?

HOW TO SOLAR NOW

PART II:
Smart Solar Planning

HOW TO SOLAR NOW

PART III:
Learn About the Layers

HOW TO SOLAR NOW

PART IV:
Putting it all Together

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Part II: Smart Solar Planning

Four Steps for Smart Solar Planning

1. Assess patterns of existing land use

2. Find opportunities

3. Identify locations for solar that avoid negative impacts to valued resources

4. Evaluate solar feasibility

In *Part III: Learn About the Layers*, you will use these four steps as a framework to learn about different resources in your community. As you do, you'll also learn how to think about and apply the steps to local solar development planning.

What are the benefits of planning for smart solar development in my community?

Embracing smart solar development is integral to a community's comprehensive strategy for achieving both environmental benefits and strong economic development. Solar energy systems provide clean

Part III: Learn About the Layers
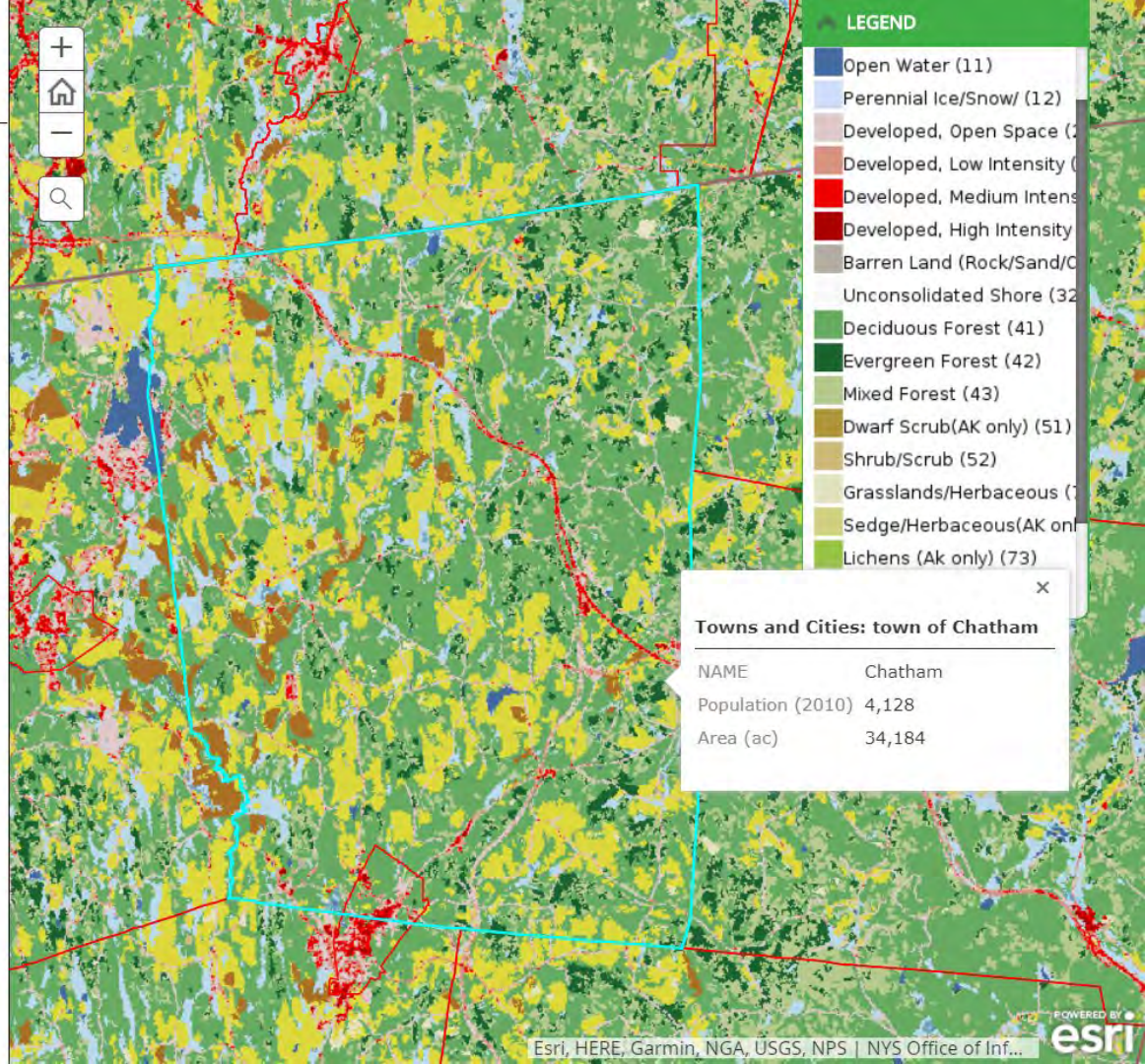
Step 1:
Assess Existing Development Patterns

Assessing existing community development is an important first step in smart solar planning, which seeks to integrate new energy systems into the landscape in a way that preserves natural resources and community character. A preliminary assessment helps to focus subsequent analysis of where the built environment is likely to provide opportunities for co-location and redevelopment with solar. It also provides an initial identification of undeveloped areas that may be attractive to solar developers but require further analysis due to the presence of agricultural and natural resources.

Land cover data, which shows how much of an area is covered by development, agriculture, forests, water (including wetlands and open water), and other land types, illustrates the development patterns of a community in broad strokes.

Learn to read a Land Cover map.

Once you are familiar with how to interpret Land Cover data, you can zoom to your community on the map to

LEGEND

- Open Water (11)
- Perennial Ice/Snow/ (12)
- Developed, Open Space (
- Developed, Low Intensity (
- Developed, Medium Intens
- Developed, High Intensity
- Barren Land (Rock/Sand/C
- Unconsolidated Shore (32
- Deciduous Forest (41)
- Evergreen Forest (42)
- Mixed Forest (43)
- Dwarf Scrub(AK only) (51)
- Shrub/Scrub (52)
- Grasslands/Herbaceous (
- Sedge/Herbaceous(AK onl
- Lichens (Ak only) (73)

Towns and Cities: town of Chatham

NAME	Chatham
Population (2010)	4,128
Area (ac)	34,184

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Part III: Learn About the Layers

Step 2:

Identify Solar Opportunity Areas

Solar energy development should be prioritized on rooftops and other previously disturbed areas in order to minimize impacts on undeveloped land and maximize opportunities to use already-developed or abandoned areas for solar.

The Solar Opportunities Layers allow you to map two kinds of opportunity areas for solar: large rooftops and previously disturbed areas that are pre-screened for their renewable energy potential.

Zoom in to your community on the map to the right to see **Large Building Footprints** and **Re-Powering Opportunities**.

Rooftops

Once you zoom in, the Solar Mapping Tool outlines building footprints above 20,000 square feet (about half an acre). The size of building footprints usually reflects the size of the roof. Large rooftops are an ideal solar location because **combining solar with existing development reduces its land-use impacts.** Rooftop

15

LEGEND

Re-Powering Opportunities

Mined Lands

Large Building Footprints

Large Building Footprint (greater than 0.5 ac)

Acres 17.3
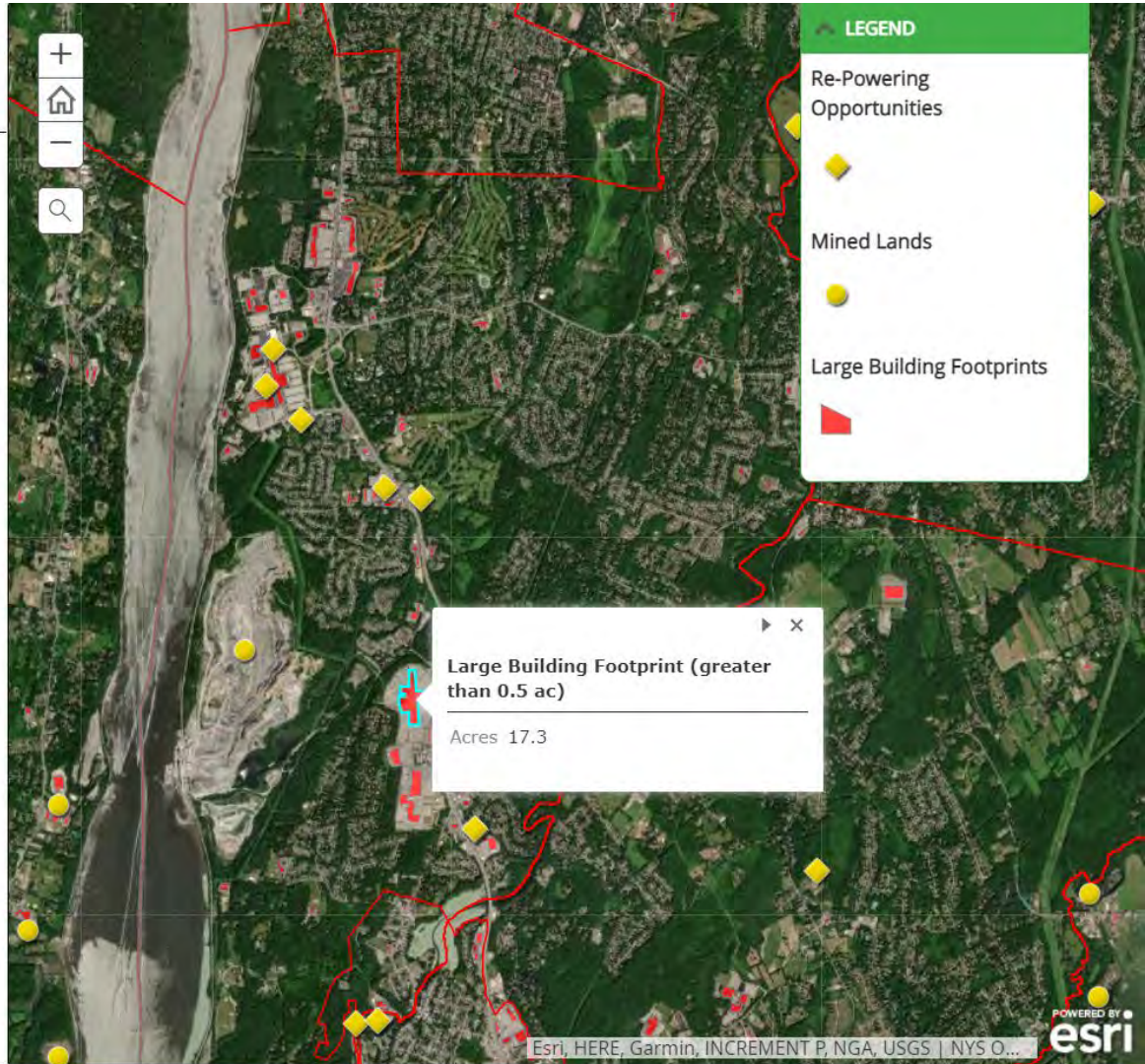
Step 3:

Identify locations for solar that avoid negative impacts to valued resources

Solar energy systems, like all development, should be sited to avoid harming important resources.

In order to select a smart solar site, awareness of the location of these assets in your community is key.

Important resources can include:

- valuable agricultural soils
- wetlands and water sources
- designated important wildlife habitat
- mature forested areas
- historic, cultural, scenic, and recreation areas

Protect Agricultural Resources and Promote Co-Location

The agricultural layers provide information on high-quality farm soils and Agricultural Districts. Local farms produce sustainable, healthy food for our communities

Part III: Learn About the Layers
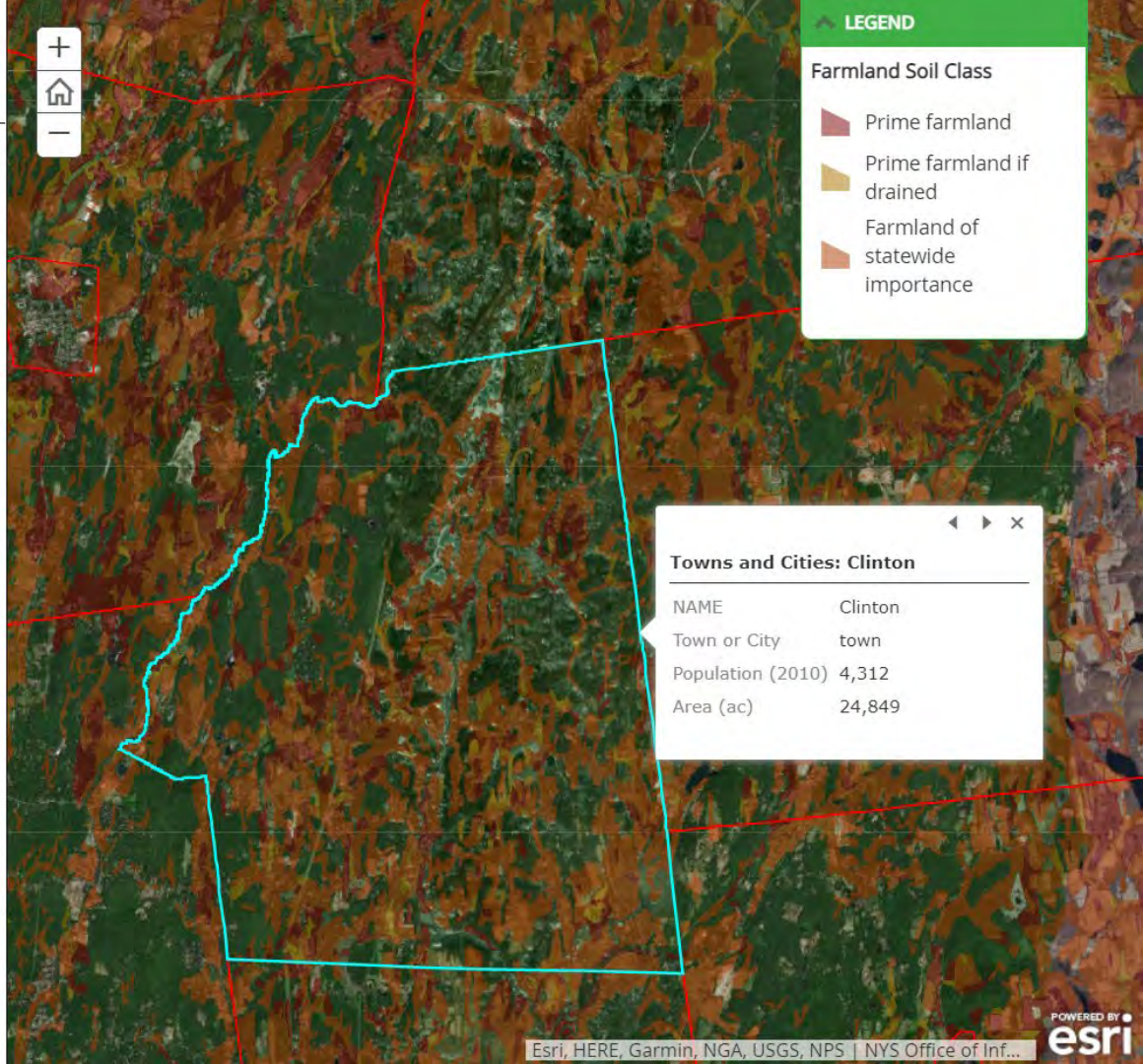
Agricultural Resources

>> *Farmland Soils*

Important farmlands are often identified based on three soil classes: **Prime Farmland**, **Prime Farmland if Drained**, and **Farmland of Statewide Importance**. Prime Farmland is the highest quality of the three.

Since farmland areas are often desirable for solar development (due to their open nature and often gentle slopes), communities should **consider allowing some solar development on farmland. Each municipality should decide how much** and which classes of farmland soil they feel might be ideal to reserve for agricultural uses only.

In some instances, **allowing solar development on less valuable farmland provides economic incentives for farmers to keep farming the most productive land**, as opposed to selling the whole farm to a residential or commercial developer.

You can view the total acreage of classified farmlands in your community for context when thinking about how much solar development to allow in your community.

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Farmland Soil Class

- Prime farmland
- Prime farmland if drained
- Farmland of statewide importance

Towns and Cities: Clinton

NAME	Clinton
Town or City	town
Population (2010)	4,312
Area (ac)	24,849

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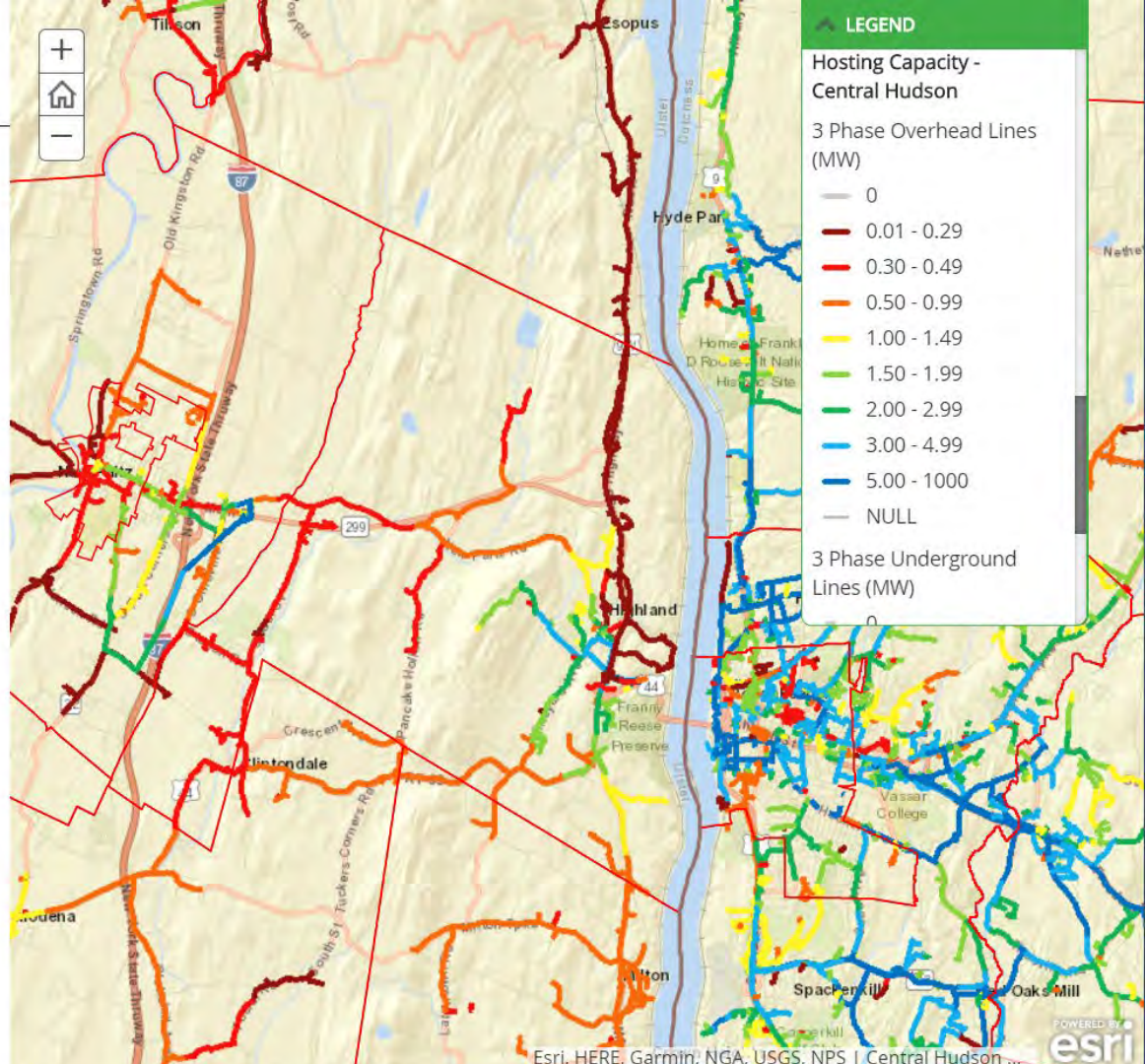# Part III: Learn About the Layers

Interconnection

>> *Hosting Capacity*

Hosting capacity is the amount of electricity a distribution line can carry. **A distribution line must have spare hosting capacity available for a solar project to be connected without upgrading the distribution line.** Solar development is more likely in areas with more available hosting capacity.
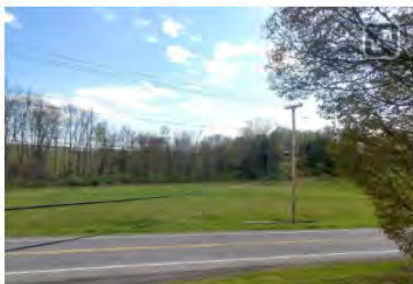
Distribution Lines

Even in areas where hosting capacity is currently limited, hosting capacity **upgrades can open up additional sites to solar development**. Renewable energy incentives may make hosting capacity upgrades cheaper. Municipalities should therefore **consider permitting**

LEGEND

Hosting Capacity - Central Hudson

3 Phase Overhead Lines (MW)

——	0
——	0.01 - 0.29
——	0.30 - 0.49
——	0.50 - 0.99
——	1.00 - 1.49
——	1.50 - 1.99
——	2.00 - 2.99
——	3.00 - 4.99
——	5.00 - 1000
——	NULL

3 Phase Underground Lines (MW)

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Part IV: Putting It All Together

Now that you have seen all the pieces of the puzzle, it's time to starting identifying some potential solar development zones and sites in your community. You can now control all the data layers presented so far. Layers can be turned on and off by clicking on the Layer Group icons at the bottom of the map:

Each Layer Group corresponds to a resource or subject, and there are also other tools and functions available in the map.

Using what you have learned about the data layers in the map, you can now use this tool to identify solar opportunity areas, estimate the amount of potential solar development that might occur in your community, and consider local renewable energy goals. This tool can also be used determine site suitability from a

Solar Mapping Tool

Zoom

Starting view
(Hudson Valley)

My location

Measure

Draw

Print

Full Screen Mode

Show Overview Map

Links to:
Solar Mapping Tool Homepage
HowToSolarNow.org
Data Sources Document
Tips and Frequently Asked Questions

Basemaps
(including
Aerial Imagery)

Layer Groups

Legend

-75.838 43.773 Degrees

BACK

Replication Guide

Instructs technical audiences outside of the Hudson Valley on how to recreate the Solar Mapping Tool for their regions
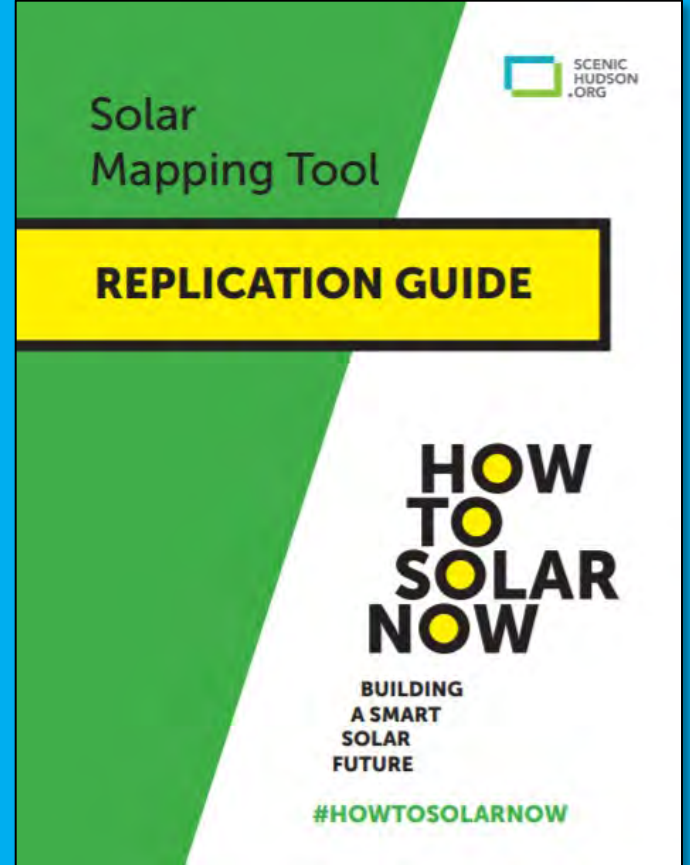
THANK YOU!

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