

LONG ISLAND SOLAR ROADMAP PROJECT

CONSORTIUM MEETING 4.5 NOTES

JANUARY 21, 2020

Objectives: Share spatial analysis results and get input on conclusions.

ATTENDEES

Leadership Team

Jessica Price, The Nature Conservancy
Karen Leu, The Nature Conservancy
Rupak Thapaliya, Defenders of Wildlife
Aimee Delach, Defenders of Wildlife
Chelsea Schelly, Michigan Technological University
Catherine Morris, CBI

Steering Committee

Tim Lederer, LIPA
Tara Schneider-Moran, Town of Hempstead
Michael Deering, LIPA
Tara McDermott, Long Island Solar Energy Industry Association
Sarah Oral, Cameron Engineering

Consortium Members

See list of attendees and observers in Appendix A

BACKGROUND

Jessica Price provided information on New York State's clean energy goals and Long Island's renewable energy goals and current energy demand and consumption as a context for better understanding the spatial analysis results.

NY CLCPA Energy Mandates CLCPA: 70% of electricity from renewable sources by 2030
100% electricity from clean energy sources by 2040
6,000 MW of utility scale solar (in front of the meter) by 2025
3,000 MW of energy storage by 2030

LIPA 2017 Renewable Energy Goal: 800 MW of renewable energy by 2030

Long Island generation: 5,204 MW current capacity
101 MW utility scale solar
456 MW behind the meter solar

Long Island consumption: 5,400 MW peak summer demand
21,326 GWh annual consumption

1 MW solar produces enough electricity to meet the annual electricity use of ~ 170 homes

SPATIAL ANALYSIS APPROACH

Karen Leu reviewed the spatial analysis approach:

- Analysis began by identifying parcels that met suitability criteria

- Suitability criteria were approved by the Consortium earlier in the project, both Island-wide and separate criteria for each county based on the data sets
- Smallest combined (rooftop + parking lot + ground mounted) installation size per parcel considered was 250 kW
- Where the data was older, e.g. parking lots in Nassau County, team used more recent GIS data (e.g. building footprints) to remove areas of overlap and determined that data accuracy was adequate
- Excluded all residential property

Ground-mount analysis approach:

- Identified unforested and otherwise cleared lands
- Difficult to separate specific land uses such as golf courses, ball fields, lands undergoing active development, and active farmland.
- Erred on the side of being more inclusive, since some of these sites might become available in the future

Caveats:

- Spatial analysis represents only a snapshot in time and land use is dynamic; therefore, estimates will change over time.
- All potential installation sites and capacities are ballpark estimates and do not replace site-level surveys.
- Identification of a suitable sites reflects where solar *could* be developed based on criteria developed by the Consortium and do not imply that the project team or consortium feel that solar *should* be developed there.

RESULTS OF SPATIAL ANALYSIS

Long Island:

- Has 21,863 MW potential solar capacity on low-impact installation sites, which is three times the state-wide solar goal of 6,000 MW by 2025.
- Acknowledge that this is an overestimate, because of other considerations such as interconnection, landownership, site specific characteristics. But the bottom line is space is not the barrier.
- The project team will be working to further refine these results, so this number will be reduced in the final results.

Nassau County:

- Has 6,900 MW of potential solar capacity, which requires approximately 20,600 acres of installation area, 58% of the potential is ground-mount installations
- Most parcels (46%) can support 250-500 MW size installation; about one-fifth of the parcels can support 1-5 MW size installations. To meet mid- to large-scale solar on a single parcel requires a mix of all installations.
- Land use make up:
 - The largest land use classification, commercial/industrial, has only 6% that is suitable for low-impact solar.

- There are likely clusters of privately-owned parcels that can be aggregated to meet the threshold, but we only attempted to aggregate public parcels because of time and resource limitations.
- 48% of agricultural land is suitable, but not much ag land left in the county.
- Large portion (32%) of recreation and public land is considered suitable.

Suffolk County:

- Has a total of about 15,000 MW potential capacity; 10,900 MW (73%) of this is ground mount installations.
- Similar distribution of installation size per parcel; the majority (45%) of suitable parcels are in smaller size range of 250-500 kW.
- Has larger amounts of undeveloped open space, but much of it is protected
- Land use makeup:
 - 30% agricultural land in county is suitable, 4,000 MW on unprotected farmland (predominantly ground-mount installations)
 - About half of county farmland is protected
 - Only 5% of open space is available because most of it is protected
 - 35% of commercial/industrial land use is available

Ownership/Setting:

- Even though Nassau is much smaller, it has similar amounts of capacity on land owned by schools (650 MW) or other public entities (1,350 MW), which is deemed suitable for low-impact solar.
- Suffolk County has more private land potential (12.9 GW).

Towns:

- Brookhaven has the highest potential of all town on LI (3,790 MW) 18% of total ground-mount potential on LI.
- Next highest overall potential:
 - Hempstead – 2,965 MW
 - Riverhead – 2,600 MW
 - Oyster Bay – 2,500 MW
- Data tables and charts will be made available for each town

Summary

- Total opportunity for low-impact solar sites is 3x NYS solar goal
- Developing even 25% would mean potentially 5,500 MW of new solar capacity
- Greatest opportunities in:
 - Suffolk County
 - Towns of Hempstead and Brookhaven
 - Installation Type – Ground-mounted (73% of total)
 - Settings – Recreational and entertainment (Nassau) and Agricultural settings (Suffolk), dominated by ground-mount
 - Size - Majority of installations are 250-500 kW

Next steps

- Add overlays of zoning, brownfields and interconnection data if available

- Add solar radiation analysis
- Request feedback on town fact sheets
- Deploy the Interactive web map and share with CN members

DISCUSSION

- Surprised more solar hasn't been developed already.
- Hope we can shape policy to take advantage of this potential.
- Long Island already has four of the largest projects in NYS, but they aren't mapped as sites for future development (including one in Brookhaven, Kings Park, Brookhaven Lab, and county solar carports. A project in Calverton is about to be approved.)
- Existing facilities are not currently included on the maps.
- LIPA clarified: In 2017, LIPA's set a goal of adding 800 MW of renewable energy by 2030 as part of the Clean Energy Standard. This goal will likely be modified in response to the CLCPA target of 70% clean energy by 2030. The CLCPA set a goal of adding 6,000 MW of distributed (behind the meter) solar by 2030. LIPA's share is 750 MW, and they expect to surpass that goal.
 - Clarified that the capacity of the grid to accept the solar is not yet taken into account. LT is still working on that with LIPA\PSEG LI to integrate interconnection information into the map. As part of their 2019 Utility 2.0 filing LIPA\PSEG LI are proposing to create a public DG capacity map, which is being reviewed by PSC. If the data is not available in time, we will need to caveat results accordingly.
 - One participant commented that the interconnection layer is critical to all of this. For now, we can use this version; <https://www.psegliny.com/aboutpseglongisland/ratesandtariffs/sgip/maps> We are currently at 52 red, 72 yellow, 22 green for solar interconnection potential.

NEXT STEPS ON OVERALL PROJECT SCHEDULE

- Share today's slides with Consortium members
- Present the town fact sheet example and template for comments
- Update on the web map to allow participants to explore the data in more detail
- Feb 26 – next Consortium meeting to begin developing strategies
- May be setting up new work groups to help the development of the final report recommendations after the next meeting.

APPENDIX 1: LIST OF CONSORTIUM MEMBERS IN ATTENDANCE

- Legislator Bridget Fleming – Suffolk County Legislature
- Alex Burgess – Edgewise Energy
- Gina Coletti – Suffolk County Alliance of Chambers
- Irene Donohue – Suffolk County Legislator Fleming's Office
- Meagan Fastuca – Town of North Hempstead
- William Feldmann – Empire Clean Energy Supply
- Peter Gollon – LIPA Board of Trustees
- Meme Hanley – Land Trust Alliance
- Tyler Huffman – City of Long Beach

- Ryan Madden – Long Island Progressive Coalition
- Andrew Manitt – Sustainability Institute @ Molloy College
- Kyle Rabin – Long Island Regional Planning Council

Observers:

- Echo Cartwright – TNC New York
- Stephen Lloyd – TNC New York
- Nels Johnson – TNC North America
- Mike Evans- Defenders of Wildlife