



## **NYSERDA Project Description**

There is a growing perception of conflict in land use between solar development and farming in communities across New York State (NYS). This stands in direct counterpoint to the State's mandate to procure 70% renewable electricity by 2040. Most of the land that is viable for solar development in NYS is in agriculture, since large-scale solar is prohibited in wetlands and forests, and there are no other major land cover types in the State. To reach the State's critical climate goals for renewable energy, the conflict between solar and agricultural land needs to be resolved immediately. The path forward is called co-location, which involves using a solar site for continued agricultural purposes.

This project is part of a grant funded by New York State Energy Research and Development Authority (NYSERDA). The goal of this project is to increase the deployment of ground-mounted solar in NYS in furtherance of State mandates and climate needs, while also growing the agricultural sector in the State and improving public perception of solar energy in communities. By building the synergies between agriculture and solar, this effort will reduce permitting risk and operational costs for solar, resulting in increased deployment of solar in NYS.

This project investigates areas such as impact on costs, solar site design, and environmental benefits that will inform management decisions of others going forward. This project will also contain control sites or sites where there are solar arrays that are managed using a traditional mechanical and herbicide regime, so that the operational costs per acre across traditional and co-location projects in the NYS area can be compared directly.

The American Solar Grazing Association (ASGA) is conducting a three-year field study (2022-2025) collecting a range of data related to crop health, solar planting mixes, economics of co-location, solar equipment risk, and soil health from Northeast solar sites currently using co-location. Target sites were selected based on their ability to contribute to the knowledge base over the duration of the study, provide relevant information about innovative co-location strategies and the willingness of all parties involved in the solar site maintenance to share information. ASGA is collecting data from 29 sites.

ASGA aims to reveal what there is to be known over the study period about the agricultural enterprises (e.g., solar graziers and solar site vegetation managers) that are engaging with ground-mounted solar and answer the following questions:

- What do these agricultural businesses gain for their farm enterprises by working with the solar industry?
- Are the agricultural enterprises that engage with solar profitable?
- Is the solar infrastructure at these sites receiving an undue amount of damage or a similar amount of damage to control (conventionally managed) sites?
- At the sites where co-location is practiced, is the land improving in soil health or declining?

Task	2022				2023				2024				2025			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Solar Planning Mixes & Performance	█	█				█										
Crop Health Assessment		█				█										
Soil Sampling		█				█				█						
Economic Analysis				█	█	█	█	█	█	█						
Solar Equipment Risk Assessment				█	█	█	█	█	█	█						
Information Transfer and Dissemination Plan									█	█	█	█	█	█	█	█

The current project timeline is as follows:

ASGA would like to thank Caro Roszell and Alissa White from American Farmland Trust (AFT) for their ongoing partnership to collect soil and forage samples, as well as preliminary data analysis. Additional thanks go to Allison Desario, Jonathan Barter, and Zach Goldberg for their work in collecting field samples. Allison also played a large role in preparing and disseminating the solar operator and grazier surveys, while Zach will be performing the economic analysis following the survey completion.

ASGA research updates can be found at: <https://solargrazing.org/asga-research/>