

# ABOUT THE COMPANY

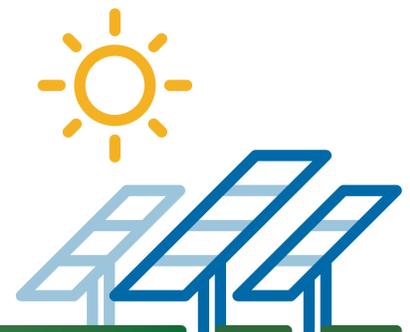
## Hecate Energy develops solar, wind and battery storage projects for our clean energy future.

- Hecate Energy develops clean energy power plants from inception and planning through construction and operation.
- Founded in 2012 by a team of energy industry veterans who have worked together for more than 25 years, Hecate Energy's team has developed thousands of megawatts of electricity generation projects across the United States.
- Hecate Energy successfully secured over 6 gigawatts (GW) of renewable power purchase agreements since 2012, with 45 GW of projects under development, including 800 MW of projects in New York State.



*"Hecate shares New York State's commitment to meeting its clean energy goals in a way that incorporates feedback from local communities, which is why we remain committed to the Shepherd's Run Solar Farm and are beginning the process of submitting a new permit application."*

*Matt Levine, Director of Development*



# PERMITTING PROCESS

## Major & Minor Permits

- Section 94-c Permit from NY Office of Renewable Energy Siting
- SPDES General Permit for Construction
- Highway Work Permits
- Building Permits

## Overview of Siting Permit

- Section 94-c of the Executive Law of New York State governs the process for siting and permitting applicable to the Shepherd's Run Solar Farm. It provides for the review of new or modified major electric generating facilities by the Office of Renewable Energy Siting (ORES), housed within the Department of State.

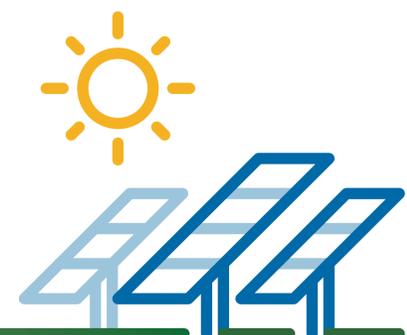
## Key Provisions of the Law Include:

- All new renewable energy projects larger than 25 megawatts are required to seek an approved permit through ORES prior to construction.
- Requires applicants to evaluate, avoid and minimize environmental and cultural resource impacts and identify potential mitigation measures to address those unavoidable impacts if applicable.
- Requires application of local laws or waivers from local laws based upon establish criteria.
- Requires ORES to hold an adjudicatory hearing regarding any substantive and significant issues.
- For each project, municipalities and community intervenors will have access to funds provided by the project and managed by the ORES that will assist them in reviewing the project and aid them in participating in the ORES process.

## Permitting Progress

- Hecate plans to submit an Application to ORES on or about June 4, 2024. The public can review all submitted documents at <https://ores.ny.gov/permit-applications>.
- ORES has 60 days to review application and determine its completeness and define any deficiencies, if any.
- Other permits, such as stormwater permits, building permits, and highway work permits will be sought closer to construction.

Project Schedule	2024	2024	2024	2025	2026
	Q1-Q2	Q2	Q3	Q2 - Q3	Q4
	Stakeholder Engagement and Open house	Full Application Submitted to ORES	Application Deemed Complete by ORES	Application Decision by ORES; Commence Preconstruction Activities	Commercial Operation Begins



# ENVIRONMENTAL STUDIES

**Potential impacts are rigorously studied in the permitting process administered by New York State in conjunction with local stakeholders. Issues pertaining to community, wildlife, and wetland impacts, among others, are addressed as part of this comprehensive process.**

## Wildlife

- Hecate Energy is focused on preserving wildlife habitat.
- The Project has undertaken several environmental studies:
  - wildlife characterization study
  - breeding bird survey
  - winter raptor survey,
  - and bog turtle habitat survey to identify habitat and species in the Project area. Based on results, adverse impacts to NYS threatened or endangered species or their habitats can be avoided by applying best management practices. Hecate has designed the Project to minimize impacts to wildlife and will mitigate any adverse impacts of the Project.

## Cultural

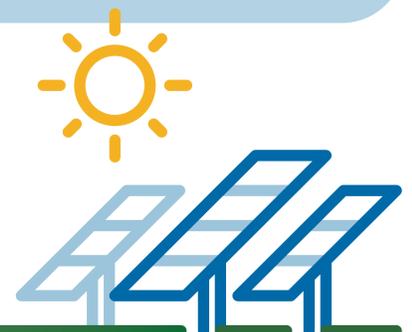
- The Project has completed cultural resource studies, including a Phase 1A Cultural Resources Investigation, a Phase 1B Archaeological field investigation, and Historic Resources Survey.
- No impacts to archaeological or historic resources are anticipated as a result of Project construction or operation. The Applicant has consulted with the State Historic Preservation Office (SHPO) regarding avoidance and minimization of impacts to cultural resources and will continue to consult as part of applicable federal or state permitting processes to comply with the State and National Historic Preservation Act.

## Wetlands and Streams

- Wetland and stream delineations, including vernal pool surveys, functions and value assessments for the Project Area are complete.
- The results of wetland and stream delineations informs Project layouts; Hecate Energy is committed to avoiding and minimizing impacts to aquatic resources.

## Additional Studies Conducted

- Visual impact analysis, glare assessment, EMF studies, land use, agriculture, soils, noise, transportation and socioeconomics have been conducted by professional consultants.
- These studies will be included in the Section 94-c application and made publicly available.
- Nothing in completed studies suggests Project is not viable.



# PROJECT OVERVIEW

Shepherd's Run Solar Farm will support local farmers and provide renewable energy to Columbia County while protecting and preserving our clean air, water quality, and soil resources.

## Project Details

- 42MW photovoltaic (PV) solar facility capable of supplying approximately 71,000 MWhs.
- The Facility will be built upon 12 parcels of private land located east of Taconic Hills School District and near the intersection of NY-23 and CR-7.
- The total project footprint (limit of disturbance) covers **approximately 215 acres**. This includes all temporary and permanent structures required to construct the project, including access roads, buried collection lines, substation, fencing, etc.
- The fenced in area around panels includes **approximately 175 acres**.
- Ground-mounted PV panels on galvanized steel tracker racking structures.
- Low-profile. Up to 12 feet high above grade at the tallest point (about the height of field corn stalks).

## Agrivoltaics

- The Project will incorporate agrivoltaic approaches, incorporating agriculture AND energy production.
- Of the project land, 73.5 acres will be set aside for dual-use agricultural purposes including sheep grazing.

## Project Changes

- In consideration of site surveys, visual and ecological resources, and public comments, Hecate Energy has evolved the Project Layout over time.



Layout	Acres of Project Area	Acres inside Fence	% of Total Project Area
July 2020	880	480	55%
December 2020	880	360	41%
October 2021	880	220	25%
April 2024	700	175	25%



# ECONOMIC BENEFITS

**Shepherd's Run Solar Farm will supply clean, affordable energy and decades of benefits for the community..**

## Employment Opportunities

- Approximately 120 direct construction jobs will be created during construction, with additional indirect and induced jobs anticipated.
- Local businesses and workers will be contracted for engineering, surveying, site preparation, construction and ongoing operation and maintenance support to the extent practicable.

## Local Economic Impact

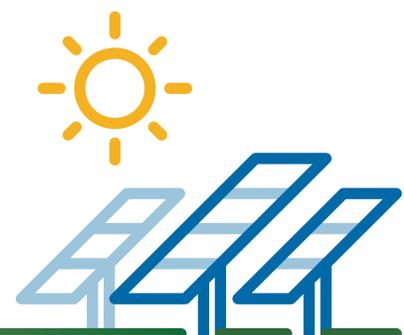
- Hecate's investment will result in millions of dollars in positive economic stimulus including jobs created during construction and operations that will benefit local building trades, restaurants, lodging, gas stations, and stores.

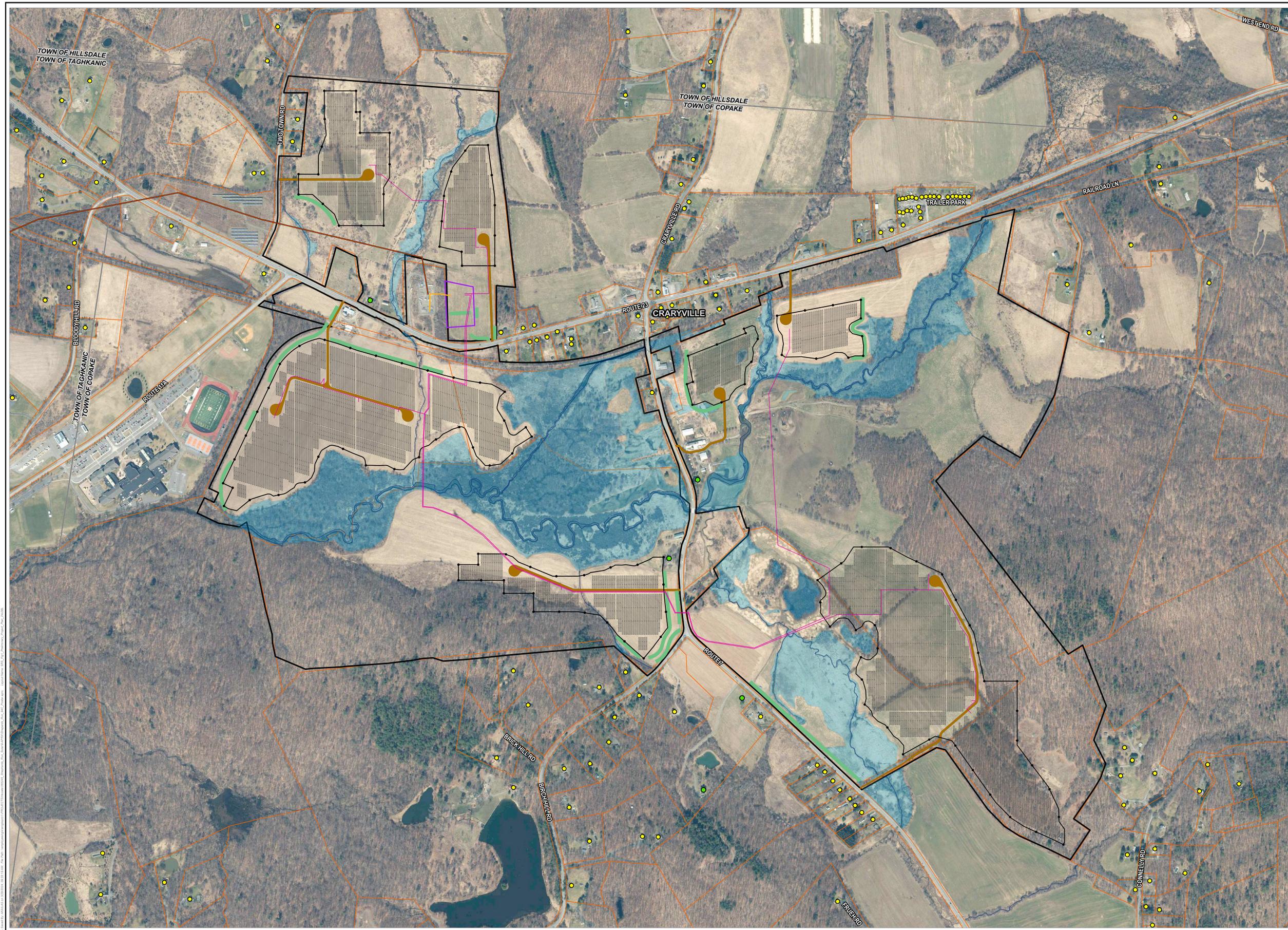
## New Revenue

- Shepherd's Run Solar Farm will create a new revenue stream the community can use for services including the local fire department, ambulance company, and library.

### **Did You Know?**

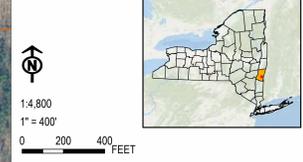
*With technology advancements, and larger scale installations like this one, solar is rapidly becoming one of the lowest cost power sources. Because the fuel is free (the sun), solar prices are also very predictable, helping to stabilize overall electricity bills.*





- LEGEND**
- NYSEG TRANSMISSION LINE
  - UNDERGROUND COLLECTION LINE
  - PROPOSED INTERCONNECTION LINE
  - ▭ FENCE
  - ▭ SUBSTATION AREA
  - ▭ ACCESS ROADS
  - ▭ LANDSCAPING AREA
  - ▭ PANEL ARRAYS
  - DELINEATED STREAM LINE
  - DELINEATED WETLAND
  - ▭ TOWN BOUNDARY
  - ▭ PROJECT AREA
  - ▭ PARCEL BOUNDARY
  - PARTICIPATION
  - NON-PARTICIPATING RESIDENCE
  - PARTICIPATING RESIDENCE

BASE MAP: ESRI WORLD MAPSERVICE - 3/23/2021  
 DATA SOURCES: ESRI, NYSDAC, HECATE, TRC



PROJECT: HECATE ENERGY  
 SHEPHERD'S RUN SOLAR  
 TOWN OF COPAKE, COLUMBIA COUNTY, NY

TITLE: PRELIMINARY PROJECT PLAN

DRAWN BY: A. KAILAS	PROJ. NO.: 364999
CHECKED BY: A. CORDAS	
APPROVED BY: C. PEARCE	FIGURE 1
DATE: MARCH 2024	



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# CLIMATE CHANGE

Shepherd's Run Solar Farm will generate approximately 71,000 MWh of energy annually – Enough to meet the average yearly electricity needs of 9,975 households.



## The Time to Act is Now!

“Last year was recently declared the hottest year on record – for the 15th time in the past 16 years. New England is warming faster than any other region in the United States except Alaska, and we’re already feeling the effects of climate change, from severe drought taking its toll on the iconic dairy farms of New Hampshire, to stronger storms and hurricanes battering the Coney Island boardwalk.”

*Environment America*

## New York's Emission Reduction Goals

Power plants in New York generated about 279 million metric tons of greenhouse gas emissions in 2023.

New York has considerable work to do to achieve the targets of the Climate Leadership & Community Protection Act (CLCPA)

### CLCPA goals:

**40%** emission reduction by 2030

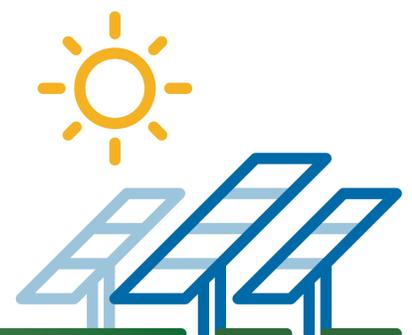
**85%** emission reduction by 2050

Remaining 15% of emissions would be offset to make the state carbon neutral

**70%** renewables by 2030

## Hecate Energy plays an active role addressing these challenges and meeting New York State climate goals.

- The Project team balances these larger societal goals with the interests of the local community in every design decision we make.
- The Project will offset nearly 56,546 tons of CO<sub>2</sub> per year, equivalent to taking 12,583 average combustion engine cars off the road.
- The Project will generate approximately 43% of Columbia County's annual electricity demand (approximately 71,000 MWh).



# VISUAL BUFFERS AND SCREENING

**The Project will utilize vegetative screening to soften and obscure views of the solar facility -- Providing ecological benefit and diversity.**

## Vegetative Screening

- A planting plan utilizing native shrub and tree species consistent with the character of the surrounding landscape has been prepared.
- Evergreen trees are used to provide screening, and native shrub species are selected for wildlife value and visual interest.
- When selecting the planting palette, characteristics considered include: native locale, hardiness zone, seasonal interest, and wildlife value.

## Maintenance

- Plantings maintained by contractor until construction complete, then Project responsible for all maintenance duties.
- All plantings warrantied based on established metrics.



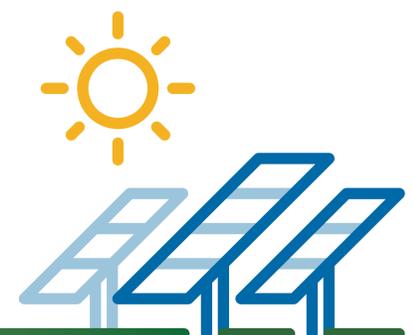
*Cranberrybush*



*Serviceberry*



*Spruce*

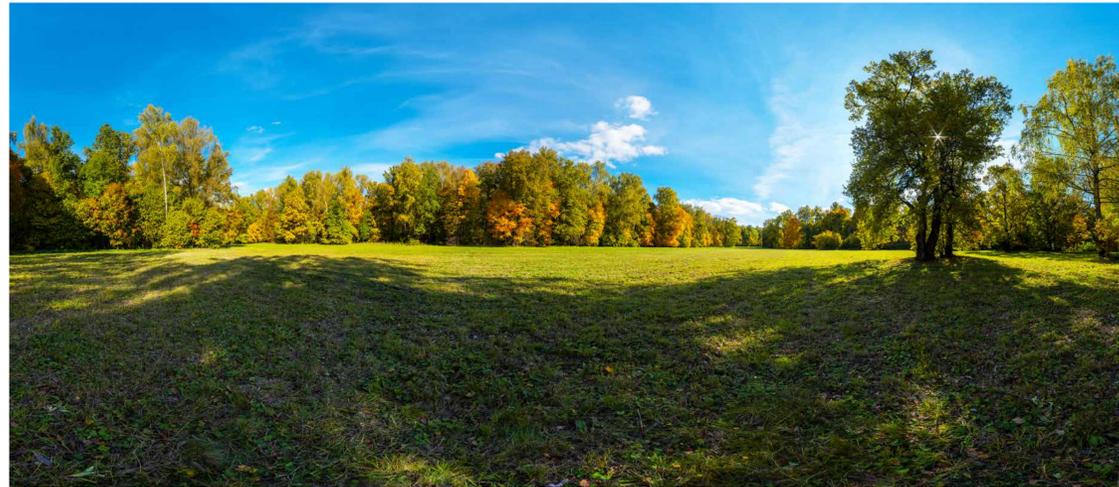


# DECOMMISSIONING

*Solar is Good for the Earth*

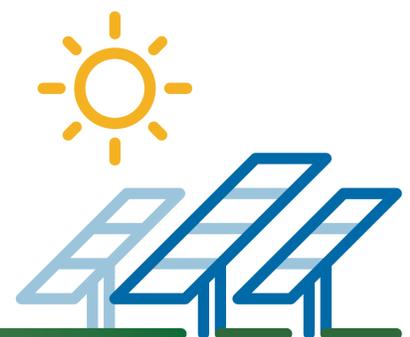
*Compared to other forms of electric generation, solar has the least impact on the environment.*

- Section 94-c of the New York State Executive Law requires a decommissioning plan, including estimated cost and dedicated funding by the project.
- When the Project reaches the end of its useful life, the site will be cleared, and project components and the panels will be recycled.
- The majority of the materials used to build the Project will be steel, aluminum and glass, which allow for recycling.

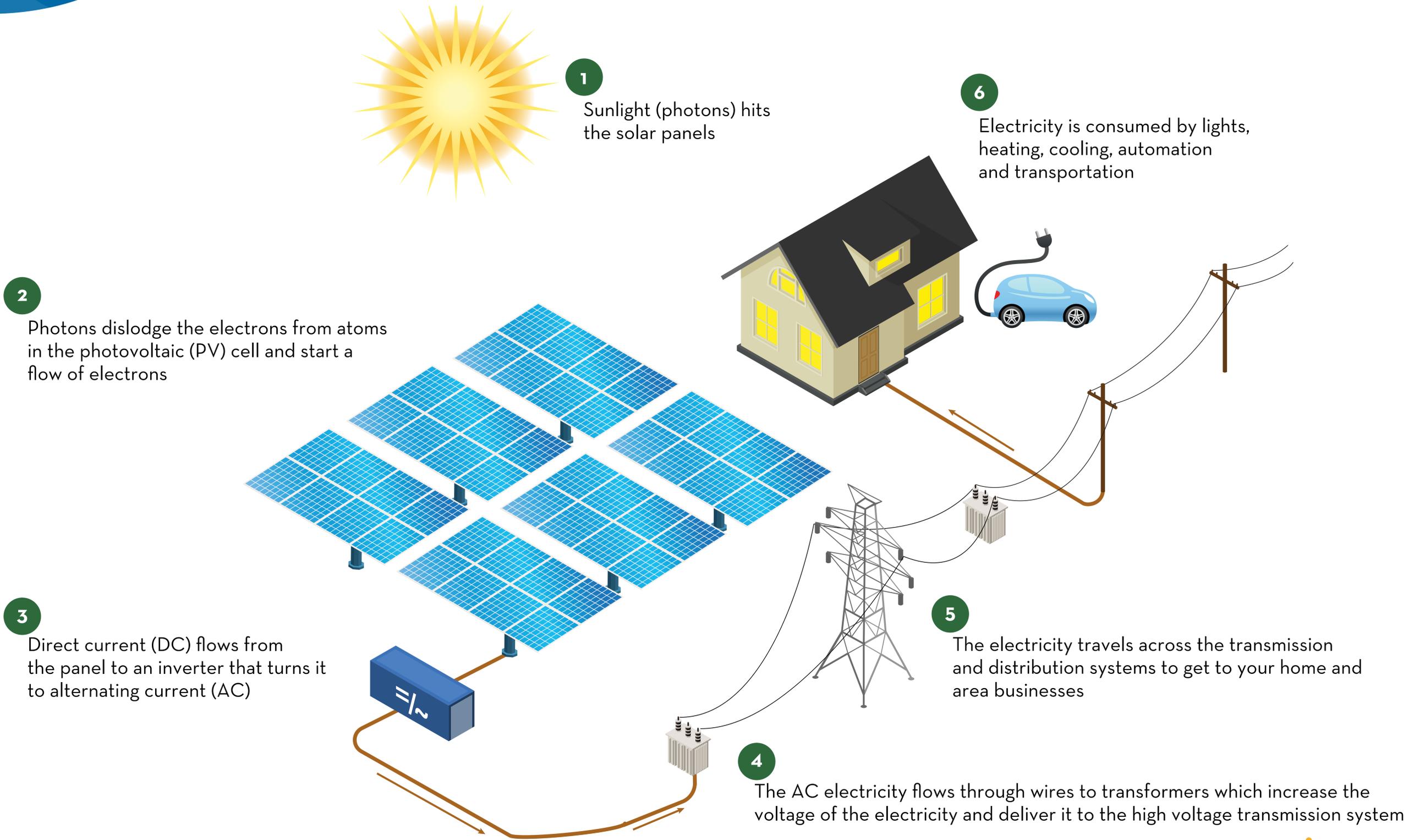


SHEPHERD'S RUN SOLAR FARM

# CONSTRUCTION



# THE SOLAR GENERATION PROCESS

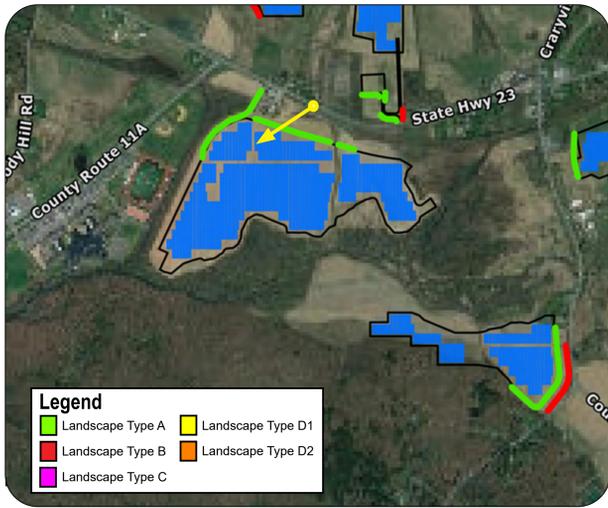


Existing Conditions

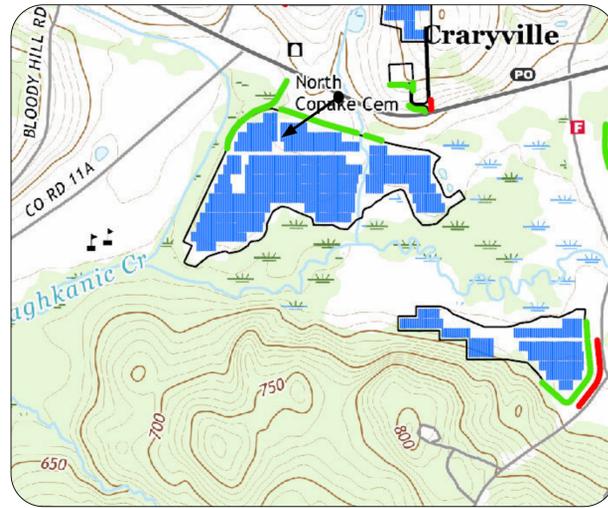


WSW

Viewpoint Location Aerial Map



Viewpoint Location Topographic Map



Viewpoint Coordinates	42.17447 -73.59139
Town	Copake
Viewpoint Elevation (MSL)	651 ft
Distance to Fence Line	495 ft
Direction of View	West Southwest
Lens Focal Length	51 mm (35 mm equivalents)
Date/Time of Photograph	12/3/2020, 12:04 PM

Visual Simulations of Facility  
Shepherd's Run Solar Project  
Town of Copake, NY

VP33 - Route 23

May 2023



VP33 - Route 23

Representative Simulation - Proposed Facility with Landscaping 5 Years: Leaf-On

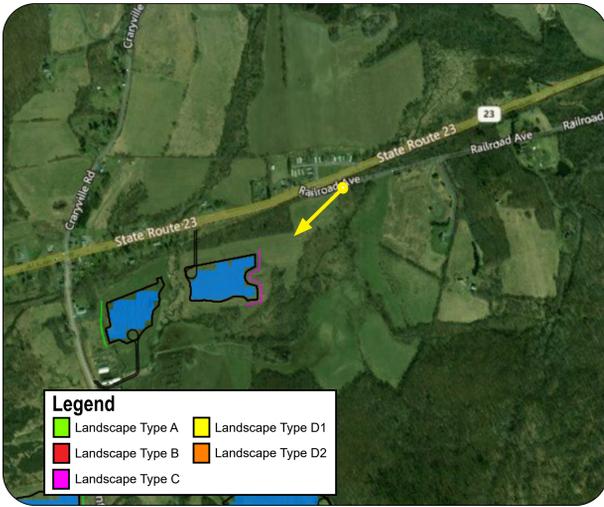
May 2023

Existing Conditions

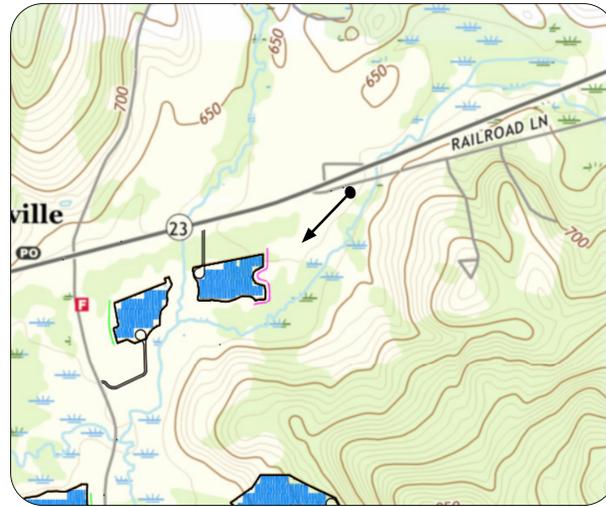


SW

Viewpoint Location Aerial Map



Viewpoint Location Topographic Map



Viewpoint Coordinates	42.15709 -73.57340
Town	Copake
Viewpoint Elevation (MSL)	736 ft
Distance to Fence Line	1310 ft
Direction of View	Southwest
Lens Focal Length	52 mm (35 mm equivalents)
Date/Time of Photograph	9/30/2021, 12:34 PM

Visual Simulations of Facility  
Shepherd's Run Solar Project  
Town of Copake, NY

VP55 - Railroad Lane

February 2022 TRC

E 1



VP55 - Railroad Lane

Representative Simulation - Proposed Facility with Landscaping Five Years: Leaf-On

February 2022

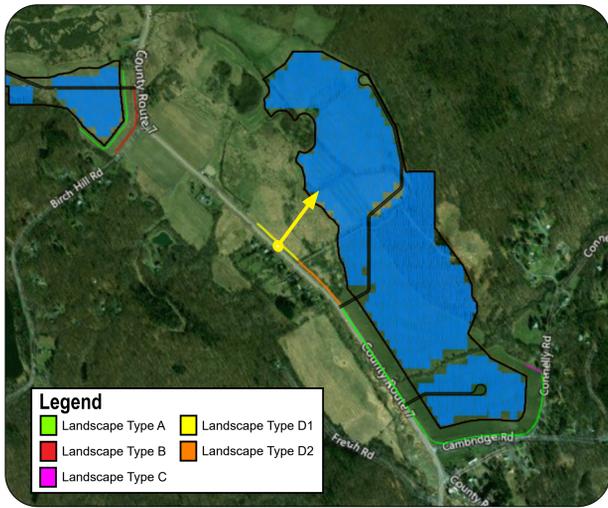
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Existing Conditions

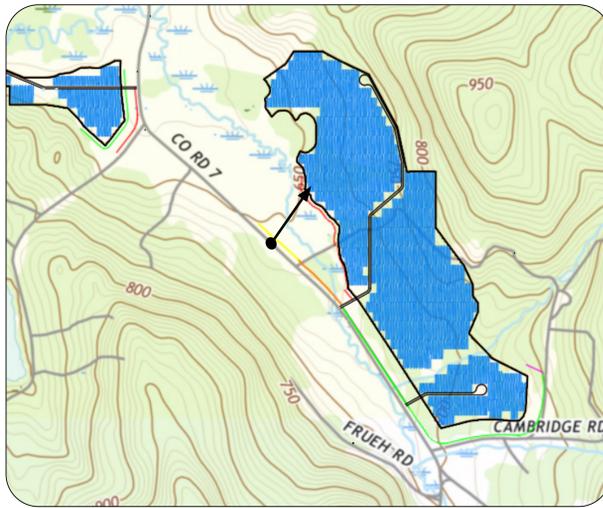


NE

Viewpoint Location Aerial Map



Viewpoint Location Topographic Map



Viewpoint Coordinates	42.16274 -73.57639
Town	Copake
Viewpoint Elevation (MSL)	659 ft
Distance to Fence Line	611 ft
Direction of View	Northeast
Lens Focal Length	51 mm (35 mm equivalents)
Date/Time of Photograph	12/3/2020, 12:57 PM

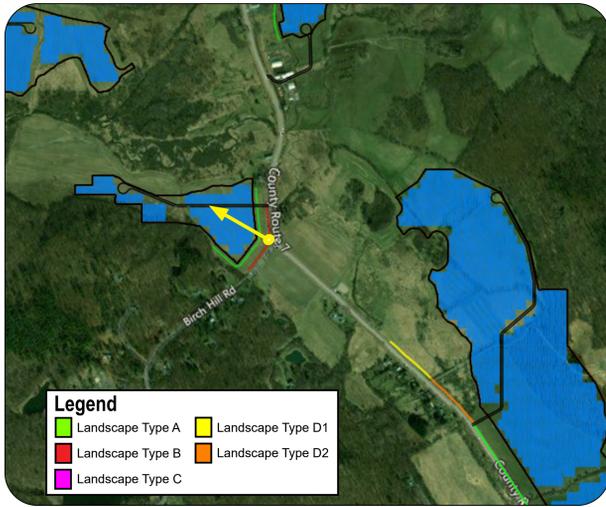


Existing Conditions

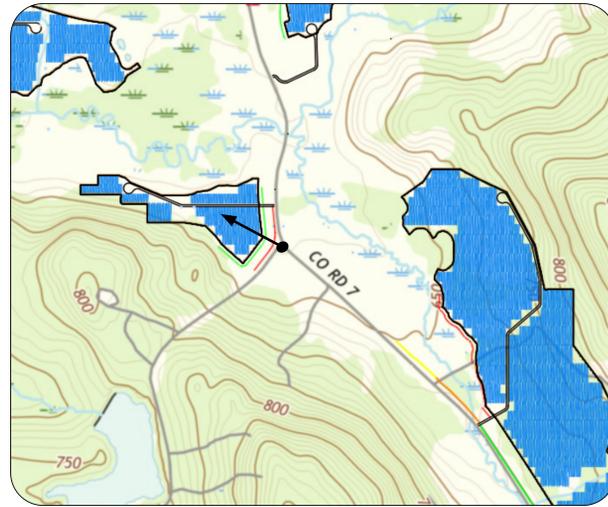


NW

Viewpoint Location Aerial Map



Viewpoint Location Topographic Map



Viewpoint Coordinates	42.16624 -73.58142
Town	Copake
Viewpoint Elevation (MSL)	639 ft
Distance to Fence Line	228 ft
Direction of View	Northwest
Lens Focal Length	52 mm (35 mm equivalents)
Date/Time of Photograph	9/30/2021, 3:48 PM

Visual Simulations of Facility  
Shepherd's Run Solar Project  
Town of Copake, NY

VP51 - Birch Hill Road

February 2022 TRC

20



VP51 - Birch Hill Road

Representative Simulation - Proposed Facility with Landscaping Five Years: Leaf-On

February 2022