

SOLAR SUPPORTS NATURE

This Project has the opportunity to support regional agriculture with dedicated and protected pollinator habitat.

The Project will plant native grasses and wildflowers around the panels to support pollinators like hummingbirds, bees and monarch butterflies.

Why are pollinators important?

- New York State has more than 7 million acres in agricultural production and many of the state's leading crops, such as apples, cabbage, berries, pumpkins and several other fruits, rely heavily on insect pollination.

Shepherd's Run Solar can help pollinate the region.

- Over the past several years, the loss of managed pollinator colonies in the state has exceeded 50%. Some commercial migratory pollinators have experienced colony losses in excess of 70%.

Solar farms are safe for birds.

Audubon:

“Our research shows that unless we slow the rise of global temperatures, two-thirds of North America's birds could face extinction. Renewable energy, like solar power, is key to reducing pollution and holding temperatures steady. We strongly support renewable energy—including solar - as with most renewable energy sources, the benefits to birds by reducing carbon emissions outweigh other concerns, as long as the installations are built with care.”



FARMING IMPACT

This project uses 240 acres (0.08%) of 175,416 acres of farmland of statewide importance and prime farmland in Columbia County.

Land Impact

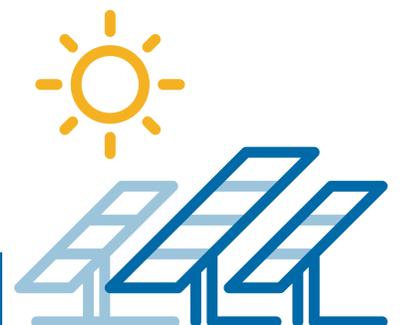
- Solar farms are among the least disruptive of any electricity-producing technologies.
- The Project's impact on the soil will be limited to access roads, the spots where steel beams are driven into the ground to support the solar panel arrays and the foundations built to hold inverter stations and transformers.
- The land used by the Project can be returned to full agricultural production after the planned life of the Project.

Sustainability for Farmers

- Solar farms provide a financial lifeline for farmers and their families, helping them with continued ownership while allowing them to farm the remainder of their land.
- Enables families to pass down their farms and land to future generations.

Soil Regeneration

- Solar facilities do not damage or degrade soil resources, like conventional power facilities do.
- By using the right seed mix, solar sites can provide significant benefits related to soil regeneration and crop pollination.
- Establishment of native plants and/or pollinator species improves the soil's organic matter over the 35- to 40-year life of the Project, allowing microorganisms and soil fauna to recover after years of regular farming.



CLIMATE CHANGE

Shepherd's Run Solar Farm will generate approximately 110,000 MWh of energy annually – that is enough to meet the average yearly electricity needs of 15,000 households.



Climate change mitigation can't wait for COVID-19 to play out.

"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

New York generated about 206 million metric tons of greenhouse gas emissions in 2016.

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

CLCPA goals:

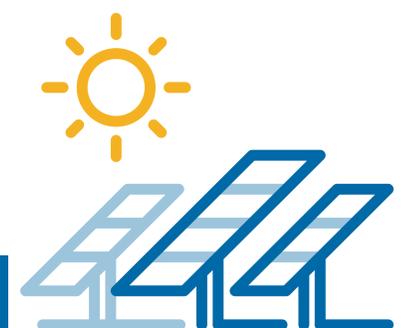
40% emission reduction by 2030

85% emission reduction by 2050

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

Hecate Energy actively supports clean, renewable energy to meet the goals of the changing landscape of electricity markets in New York and beyond.

- The Project team is paying particular attention to the Project's design, balancing our society's clean energy goals with interest to the local community.
- The Project will offset nearly 85,745 tons of CO₂ per year, equivalent to taking over 18,205 average cars off the road.



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, wetlands, and many more are addressed as part of this comprehensive process.

Visual

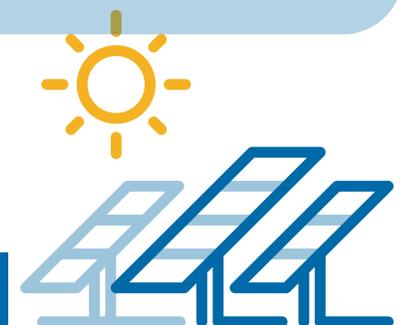
- A common misconception about solar photovoltaic (PV) panels is that they inherently cause or create glare. Glare impacts are not anticipated for the Project. Light absorption rather than reflection is the central function of solar PV panels. By design, glare is minimized because any light reflected is no longer available to be converted into electricity.
- Solar PV panels are constructed of dark-colored (usually blue or black) materials and are covered with anti-reflective coatings. Modern PV panels reflect as little as 2% of incoming sunlight, about the same as water and less than soil or even wood shingles.
- Hecate Energy is committed to working with the adjacent landowners and the community to ensure minimal visual impact occurs. A vegetative landscape plan will be designed to screen the Project from adjacent areas.

Wildlife

- Hecate Energy is focused on preserving wildlife habitat.
- The Project has undertaken environmental surveys to minimize adverse impacts to wildlife and will mitigate any adverse impacts of the Project.

Additional Studies Conducted

- Land use, agriculture & water resources, wetlands, soils, cultural resources, noise, transportation and socioeconomics are all studies that will be conducted by professionals hired by Hecate Energy.
- These studies will be included in the Article 10 application and the results will be made available to the public.



OVERVIEW OF PERMITTING

Overview of Siting & Permitting Law

- Article 10 of the New York State Public Service Law currently governs the process for siting and permitting the Shepherd's Run Solar Farm.
- Article 10 is a comprehensive process that engages community involvement by providing local voting rights and funding for local parties to participate in the process. The Siting board consists of five state officials and two local ad hoc members.



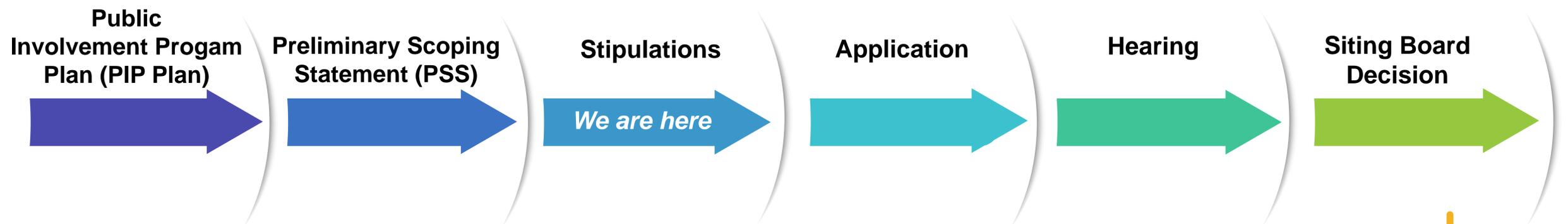
Intervenor Funding

- Article 10 projects are required to provide funds to be used to defray certain expenses incurred by municipal and local parties as they participate in the pre-application scoping process and in the Siting Board proceeding.

Public Information Coordinator:
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Key Provisions of Article 10

- Defines a major electric generating facility as those that would generate 25 megawatts or more.
- Requires environmental and public health impact analyses, studies regarding electric system benefits and public safety, and consideration of local laws.
- Requires appointment of ad hoc public members of the Siting Board from the municipality and county where the facility is proposed to be sited.
- Requires a public information coordinator within the NYSDPS to assist and advise interested parties and members of the public in participating in the siting process.



DECOMMISSIONING

Solar is Good for the Earth

The sun provides a tremendous resource for generating clean and sustainable electricity without toxic pollution or global warming emissions. -UCS

- When the Project stops producing power, the site will be cleared of the Project components and the panels will be properly disposed of.
- The majority of the materials used to build the Project will be steel, aluminum and glass, which allow for recycling by Hecate Energy.
- Based upon landowner preferences, the land can be restored to agricultural use.

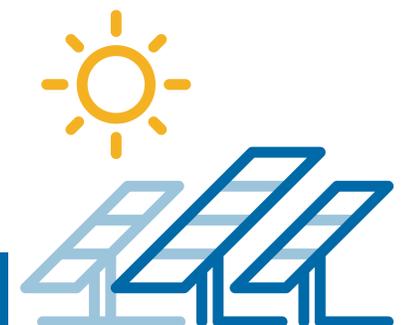


CONTACT THE PROJECT TEAM:

Info@ShepherdsRunSolar.com

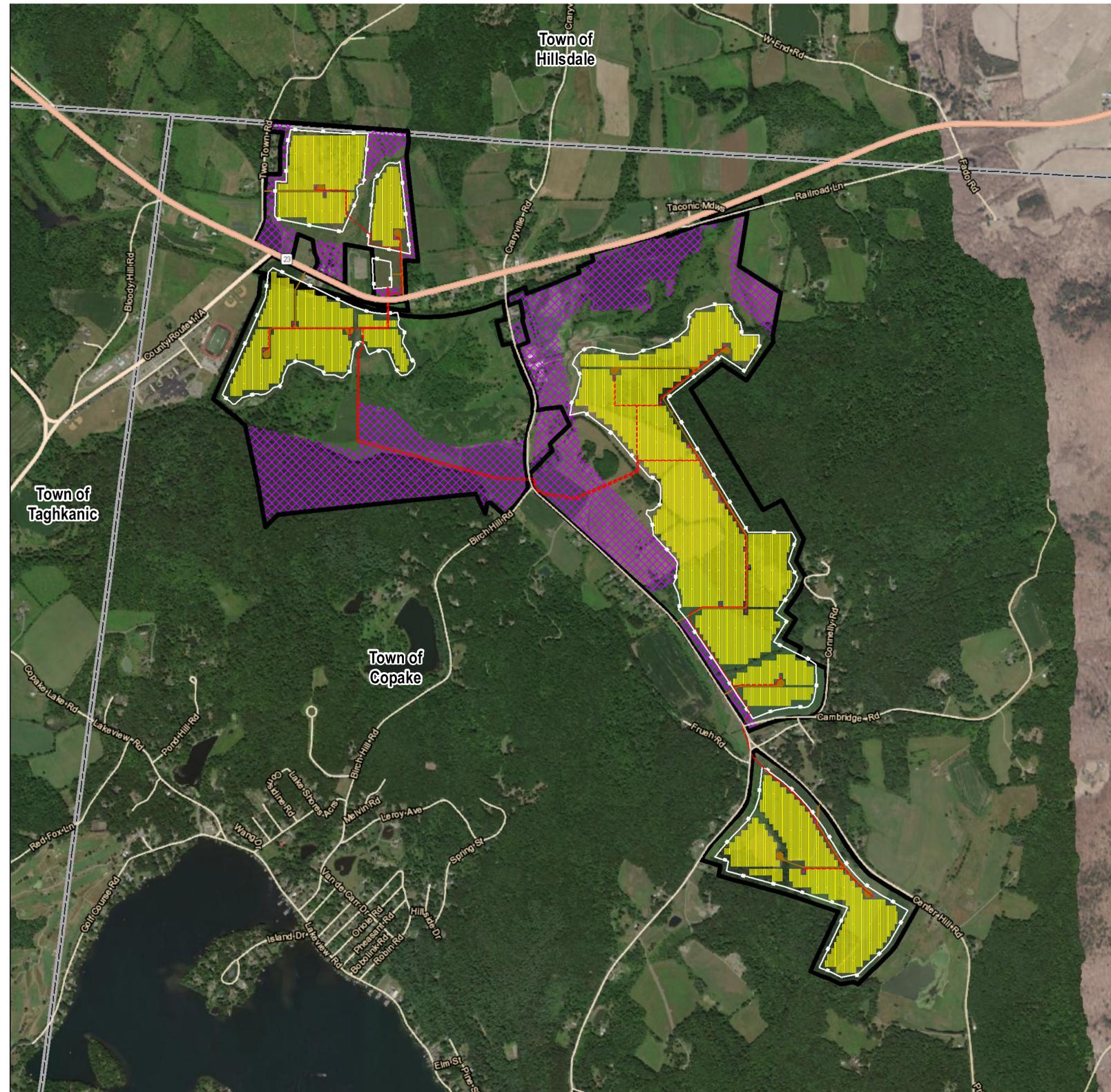
(833) 529-6597

www.ShepherdsRunSolar.com



PROJECT LAYOUT

- The Hecate Energy Project team went through numerous rounds of engineering to create the existing design to minimize visual impact.
- Stayed out of all wetlands and maintained a 100 ft buffer from wetlands.
- Inside the fence area is 360 acres.
- The panel arrays cover 280 acres.



LEGEND

- PROPOSED COLLECTION
- PROPOSED FENCE LINE
- PROPOSED ROADS
- PROPOSED PANEL ARRAY
- PROPOSED INVERTERS
- PROJECT AREA
- TOWN BOUNDARY
- AVOIDED AREAS

1. BASEMAP IMAGERY FROM ESRI/MAXAR
"WORLD IMAGERY" BASEMAP, 2019.

2. DATA SOURCES: ESRI, TRC, NRCS, HECATE.

1:24,000
0 1,000 2,000
1" = 2,000' Feet

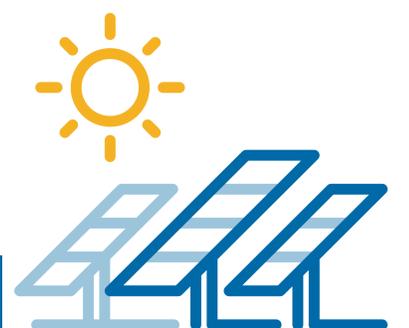


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VISUALIZATIONS

Existing Conditions



Simulated Conditions - No Landscaping



Simulated Conditions - Landscaping at 5 Years of Growth

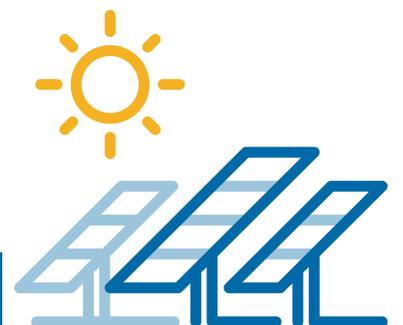


Simulated Conditions - Landscaping at 15 Years of Growth



As a part of stakeholder engagement and permitting requirements, Hecate Energy will prepare visual simulations for the Shepherd's Run Solar Farm from local vantage points.

These simulated images are of another New York solar farm by Hecate Energy. Hecate Energy has begun a comprehensive visual assessment survey for this Project.



COMMUNITY BENEFITS

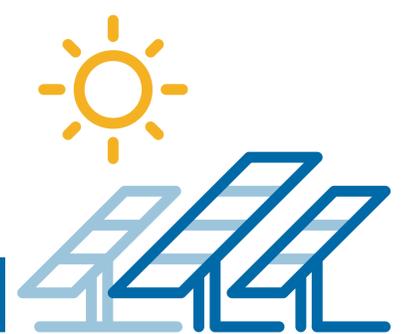
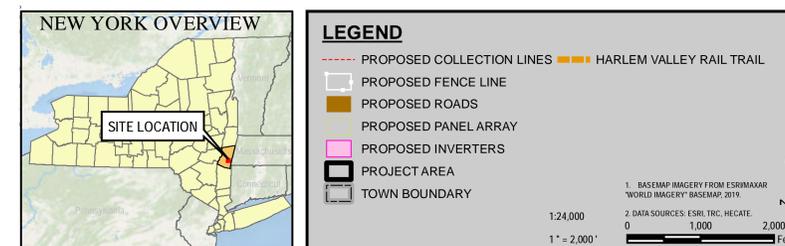
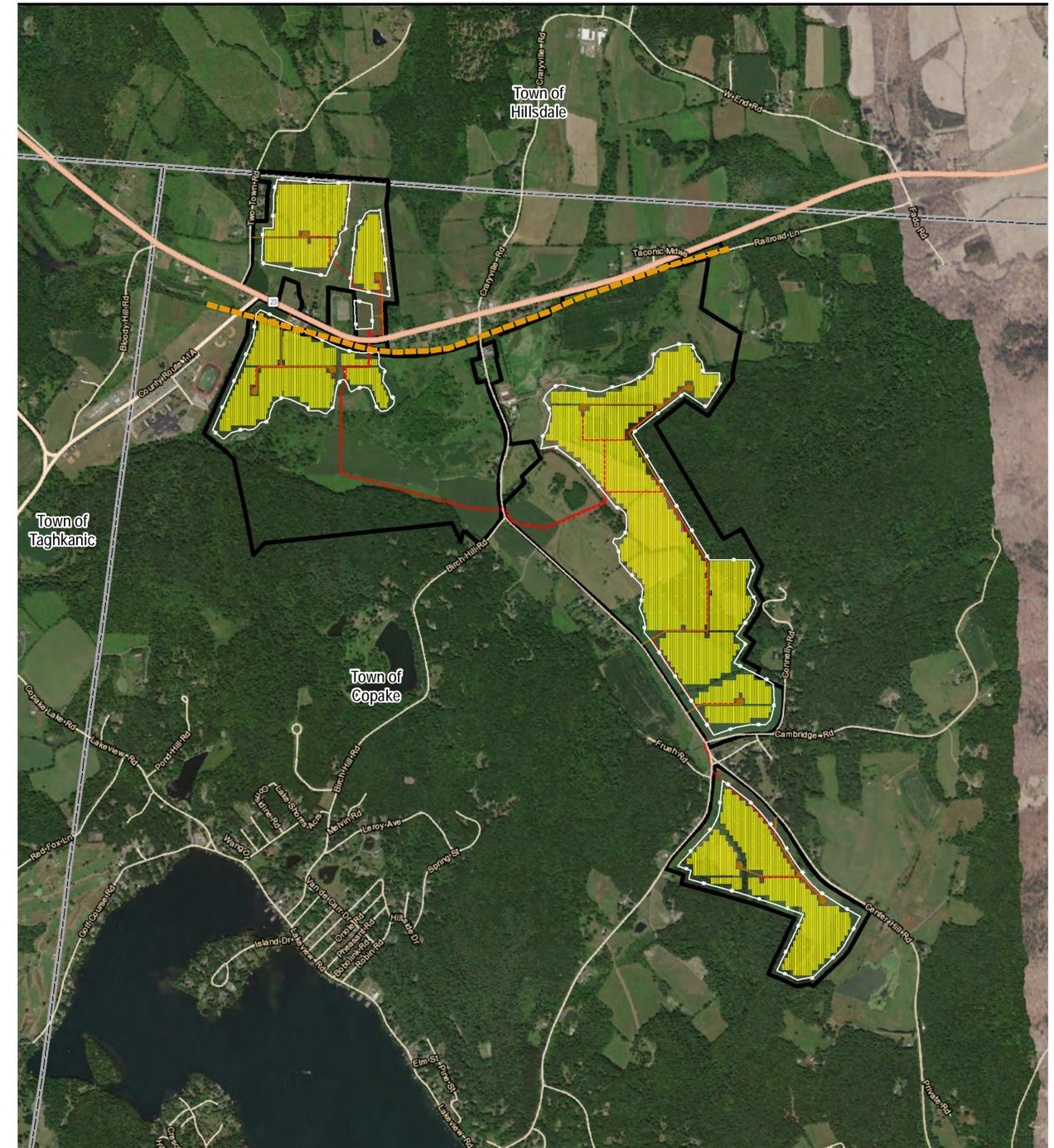
Shepherd's Run Solar Farm will be a good neighbor supplying emission free renewable energy and an array of benefits for the community.

Harlem Valley Rail Trail

- Part of the project will connect the Harlem Valley Rail Trail rather than going on Route 23 to support tourism and biking in the area.
- Along the trail, we aim to develop an educational “rest and learn” point near key points of business to educate bikers on solar.

Long-Term Partnerships

- Solar projects use essentially no municipal resources, yet significantly add to a community's revenue base.
- Revenue agreements bring significant new funds to the community. We hope to work with the Town to develop a host community benefit plan.
- Hecate Energy is working with sheep farmers, apiaries, and organic farming practices on co-development opportunities



ECONOMIC BENEFITS

Shepherd's Run Solar Farm will be a good neighbor supplying clean, affordable, renewable energy and an array of benefits for the community.

Employment Opportunities

- Approximately 200+ construction jobs will be created during peak construction.
- Local businesses and workers will be contracted for engineering, surveying, site preparation, construction and ongoing operation and maintenance support.

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.

How Will This Affect Reliability and Price?

Utility scale solar is one of the least expensive forms of electricity generation and its fuel, the sun, is free. As the price of other power generation grows, solar energy will help to mitigate overall electricity

