


APPENDIX




OUR PROPOSAL - A RE-ENVISIONED SHEPHERD'S RUN

In response to community **concerns**, we propose the following **improvements** to Shepherd's Run:



1. Protecting the Environment

-  **New community-accessible green space**
-  **Rail Trail extension**
-  **No clear-cutting trees**
-  **Wildlife-friendly fencing**





2. Protecting Homeowners

-  **Scenic screening** to integrate panels & views
-  **Compensation** for nearby homeowners
-  **Decommissioning panels**

3. Protecting Agriculture

-  **Farming and grazing** under the panels
-  **Educational programs** with Taconic Hills, local schools and colleges

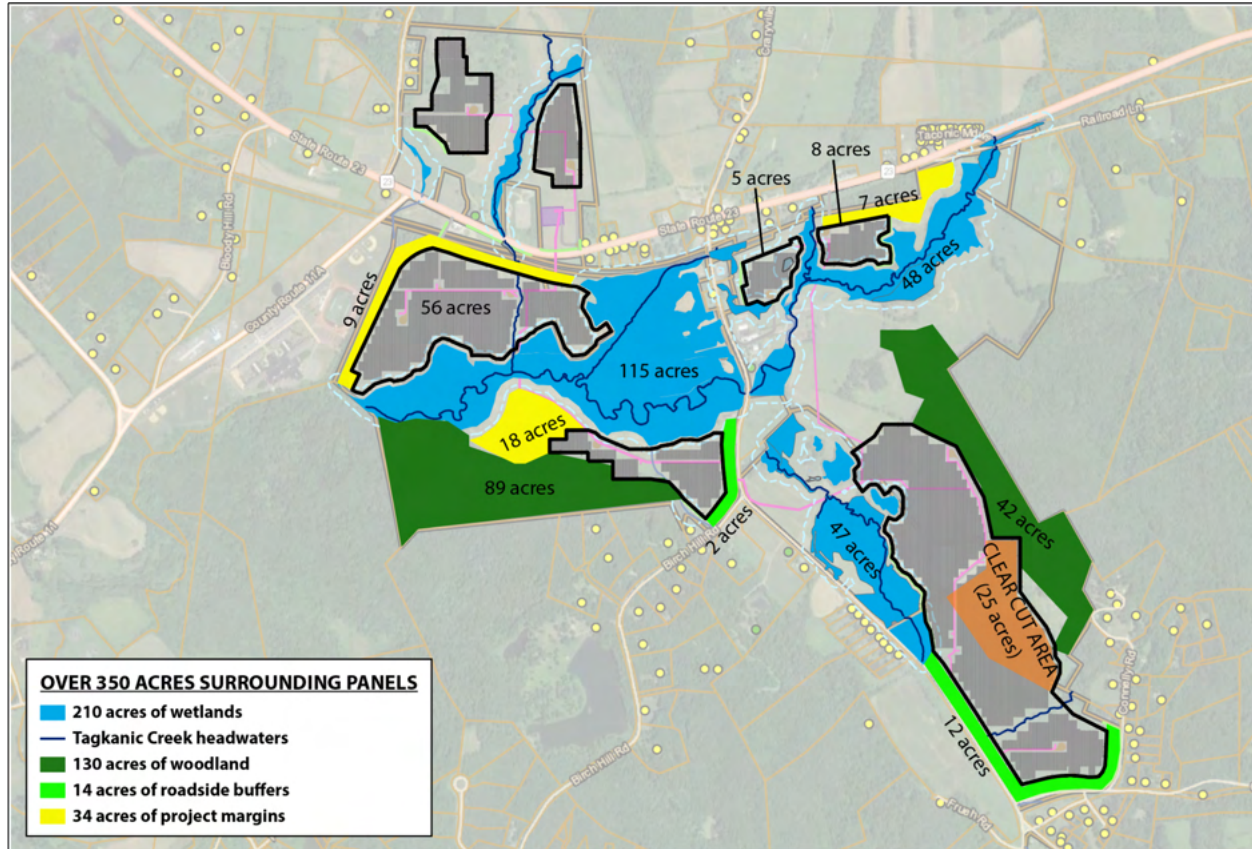
4. Benefiting the Community

-  **Lower electric bills** for local residents
-  **Solar panels** for Taconic Hills
-  **Full property taxes** for county, town, schools
-  **Buy and hire local**

LOCAL ENVIRONMENT

How can we mitigate the impact of utility-scale solar on the local environment, ecology and economy?

ENVIRONMENT - LAND AREAS

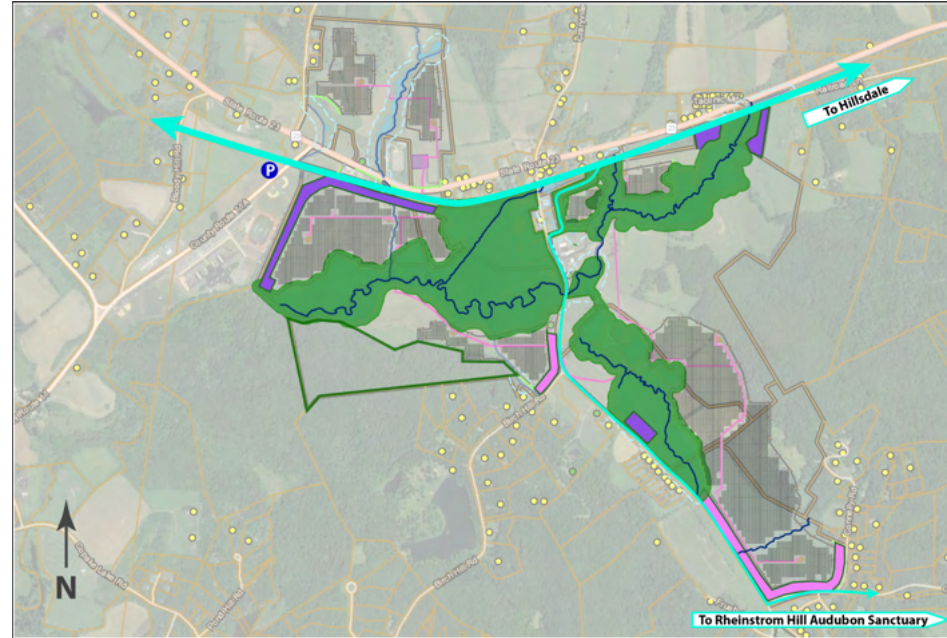


Land area estimates of various regions surrounding panels south of Route 23. Agrivoltaic panel areas are also calculated. Grazing lands for Sir William Farm are excluded.

COPAKE COMMUNITY'S CONTRIBUTION TO GATEWAY VISION

We propose the following actions to be taken by local organizations and residents in order to realize the larger gateway vision:

- Raise funds and work with landowners to connect Rail Trail from Hillsdale to Craryville
- Work with landowners to create a new community-accessible green space
- Raise funds required to restore wetlands and create trails through this new park
- Establish funds to manage this green space
- Establish community-managed gardens with local managers
- Augment plantings outside of Hecate's boundaries with ecologically-sensitive, native, food-producing trees and shrubs

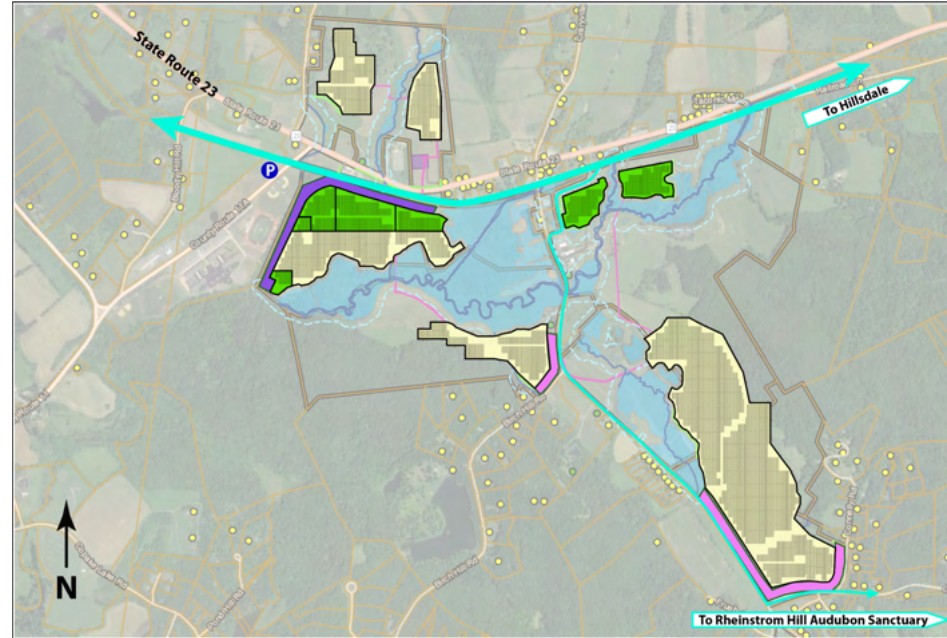


Preliminary concept illustrating areas in which the larger Copake community would have direct management for new community-serving initiatives.

HECATE'S INFRASTRUCTURE CONTRIBUTION TO GATEWAY VISION

We request Hecate to alter its plans in the following ways to integrate into the larger Craryville-Flats Restoration Gateway:

- Exclusive use of native plants in order to protect the ecology of the area, especially Rheinstrom Hill
- Wildlife-friendly fencing (already pledged)
- Plantings chosen and placed in order to soften the edge between:
 - The panels and the larger landscape
 - The planted buffers and the larger landscape (ecology-specific tailoring of plantings to each planting site)
- Provide access for hikers, grazers, landscape management and community gardens where it does not interfere with site security
- Relocate panels so that no woodland clearing is required



Preliminary concept illustrating areas in which Hecate would need to adjust its plan to facilitate new community-serving initiatives..

A TRUE PUBLIC/PRIVATE COLLABORATION

Hecate's Contributions

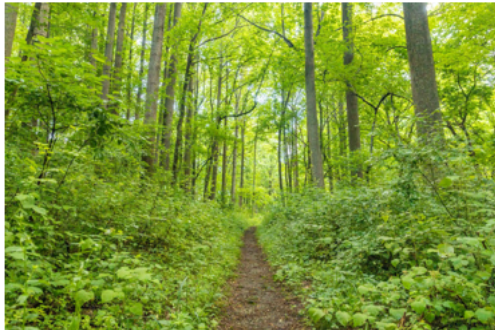
- Facilitating Rail Trail extension through the project site
- Tailoring landscaping & plantings for integration with larger vision
- Supporting research/agricultural partner access within fences
- Enabling community access through and within buffers
- Supporting agrivoltaics throughout
- Funding education programs for Taconic Hills Central School
- Making tax and homeowner payments
- Enter into low-cost power purchase agreement with local CCA or similar

Community's Contributions

- Rail Trail connection to Hillsdale and Rheinstrom Hill
- Fundraising for and management of:
 - New community-accessible open space
 - Augmented plantings in buffers
 - Community gardens
- Identifying research and agriculture partners
- Expressing support for Hecate project which incorporates Working Group proposals at ORES and other forums
- Form CCA for renewable power purchasing for local residents on cost-effective basis

TRAILS - FROM BARRIER TO BUFFER

- Connect areas of the buffer to larger public trail system
- Create local trail extensions
 - Harlem Valley Rail Trail: build new trail section within the site/final route TBD
 - Create a trail connection to Rheinstrom Hill Audubon Sanctuary
- Create trails within unique ecosystems such as the wetlands
- Utilize soft natural surfaces or simple mow paths in sensitive habitats
- Provide trails that embrace the experience of the solar panels
- Provide small localized trailhead parking areas
- Develop simple signage for rules and interpretation



Woodland trail, minimal intervention



Paved rail trail



Provide a 'solar experience' route



Typical Mow Path

LANDSCAPING - INTEGRATE WITH SITE ECOLOGY

- The landscape context of Copake is a rich tapestry of native ecologies ranging from upland and lowland woodlands to open wetlands and forested wetlands. Where these ecologies touch and pass through the solar sites, the adjacent proposed plantings should relate and tie in with the ecologies and their representative plant species. This will achieve a number of goals including **reduced maintenance**, due to the suitability of plants to conditions, **improved habitat** and a **seamless integration** of proposed plantings with neighboring plant species. This will create a specific and carefully planned planting plan which will reflect and tie in with the local and regional context.
- Provide plantings that not only aid in building scenic screening of the panels, but also respond to site specific conditions and micro habitats
- Explore cultivated buffers (productive crops such as fruit, nuts, corn, hay)



WETLANDS - OPEN AND SHRUB



UPLAND MESIC FOREST



MIXED HARDWOOD AND EVERGREEN

LANDSCAPING - INTEGRATE WITH SITE SURROUNDINGS

- Plantings should be naturalistic, layered and reflect the character of the region.
- Specific planting plans should be developed to respond to each area and condition.
 - By doing so, the plantings will become more integrated with the surroundings and not appear as foreign linear buffer screening. This needs to be more than allotments of plants with prototypical planting layouts. Minimizing regularization in terms of widths of borders, linear fencing and plant palettes will allow for a more natural and cohesive landscape. Drifts and staggered rows of deciduous and evergreen trees, thickets of native small trees and shrubs, forbs and grasses will create denser screenings that are ecologically beneficial. Not all areas should necessarily receive screening. Creating specific planting plans for each area will allow for careful assessment of site conditions allowing for preservation of important open space and view corridors.



Mixture of hardwood, evergreens and shrubs



Layers of grasses, shrubs and trees



Thickets of birch or native small trees



Deer resistant evergreen shrubs



Thickets of native shrubs such as Rhus & Ilex

NEXT STEPS - ENVIRONMENT

- SITE PLANNING

- Create a sitewide overlay of existing topography, soils, ecosystems and the proposed solar project
- Revise panel placement to preserve intact woodlands – no mass tree removals should take place
- Map the relation of fenced-in areas to landscape buffer and potential trail connections
- Refine landscape plans to respond to site ecology and community concerns
- Develop a more complex and diverse plant palette
- Define areas for potential conservation easements across properties
- Coordinate Hecate landscape plans and planting with larger site initiatives
- Confirm installation, maintenance plans and budget, as well as maintenance enforcement

- PROGRAMMING

- Partner with local non-profits to develop plans for the creation, operation and maintenance of publicly accessible areas
- Work with local youth organizations on hands-on projects
- Connect with Taconic Hills Central School and other local educational institutions on the development of hands-on curricula

AGRICULTURE

How can we support and advance agriculture on the Shepherd's Run site?

CURRENT AGRICULTURAL STATUS OF SITE

ACTIVE AGRICULTURE

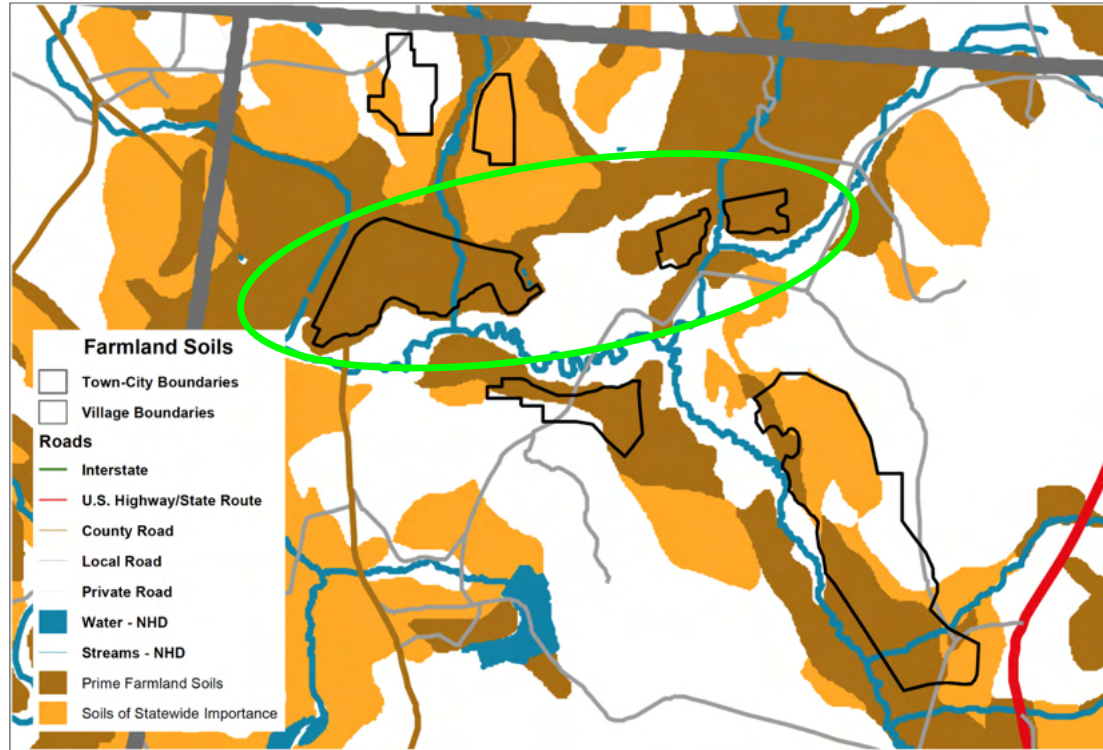
- The areas on which panels will be located are nearly all currently in active agriculture
- Sir William Farm has grazed Angus cattle for over 40 years, with two generations currently farming.
- Feed corn for local dairy herds is grown on multiple fields on site

TOP AGRICULTURAL SOILS

- Land on which panels are to be sited are predominantly top NYS-classified agricultural soils – Mineral Soils 1-4
- NYS Department of Agriculture and Markets has expressed a policy that no more than 10% of the footprint of a solar project should be located on Mineral Soils 1-4
- NYSERDA's RESRFP21-1 Smart Solar Siting Scorecard cites Mineral Soils 1-4 as areas on which to “avoid” locating a solar project

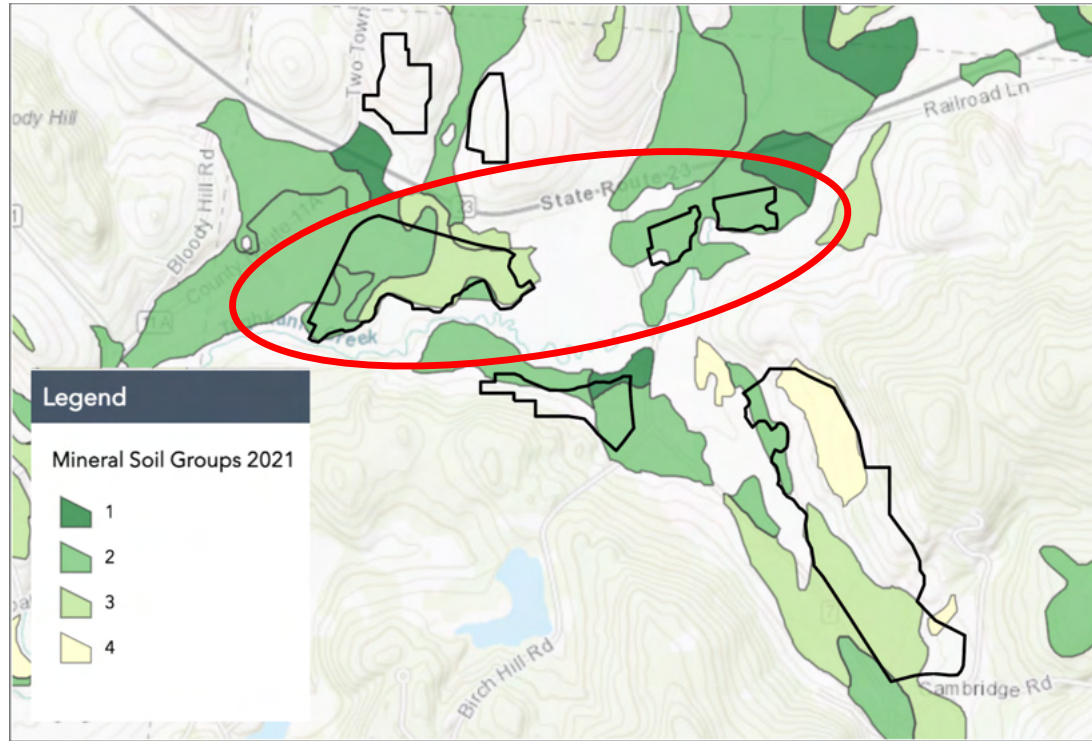
How can we support existing farming activity, and ensure that prime farm soils within project area continue to be available for agriculture and food production?

OPPORTUNITIES FOR AGRIVOLTAIC CROPLAND



Location of panels in relation to Prime Farmland Soils

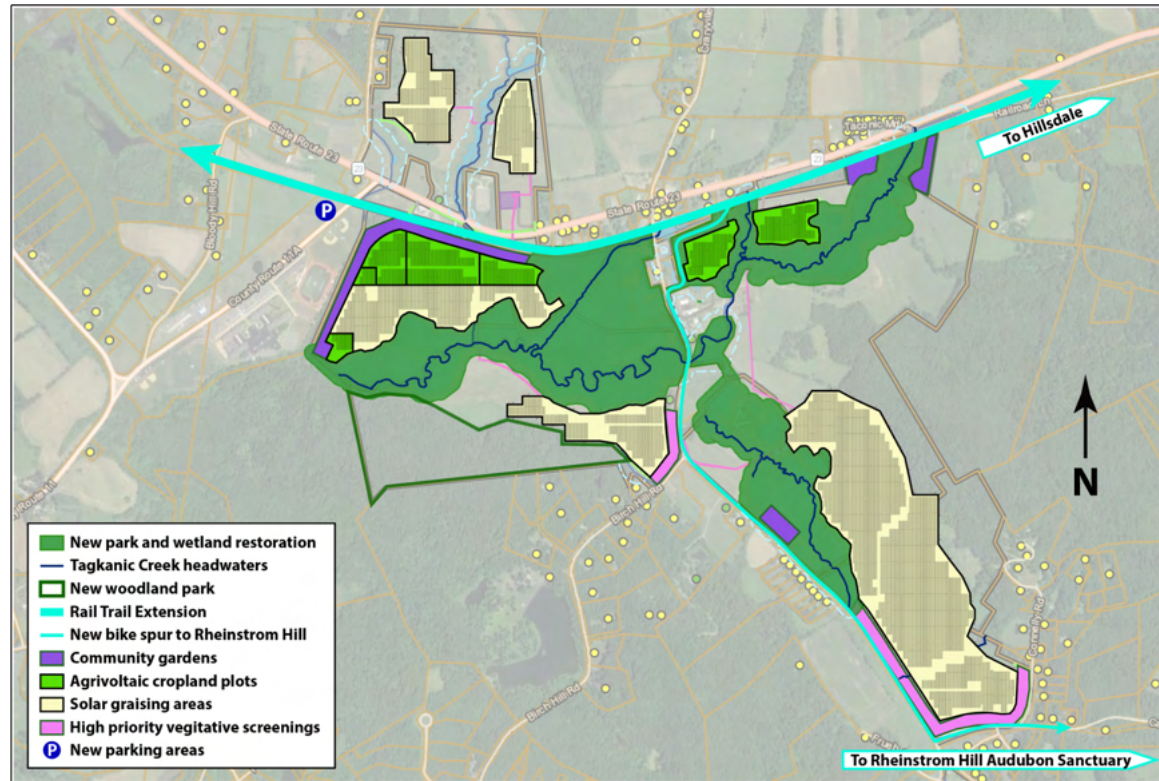
OPPORTUNITIES FOR AGRIVOLTAIC CROPLAND



Location of panels in relation to Mineral Soil Groups 1-4

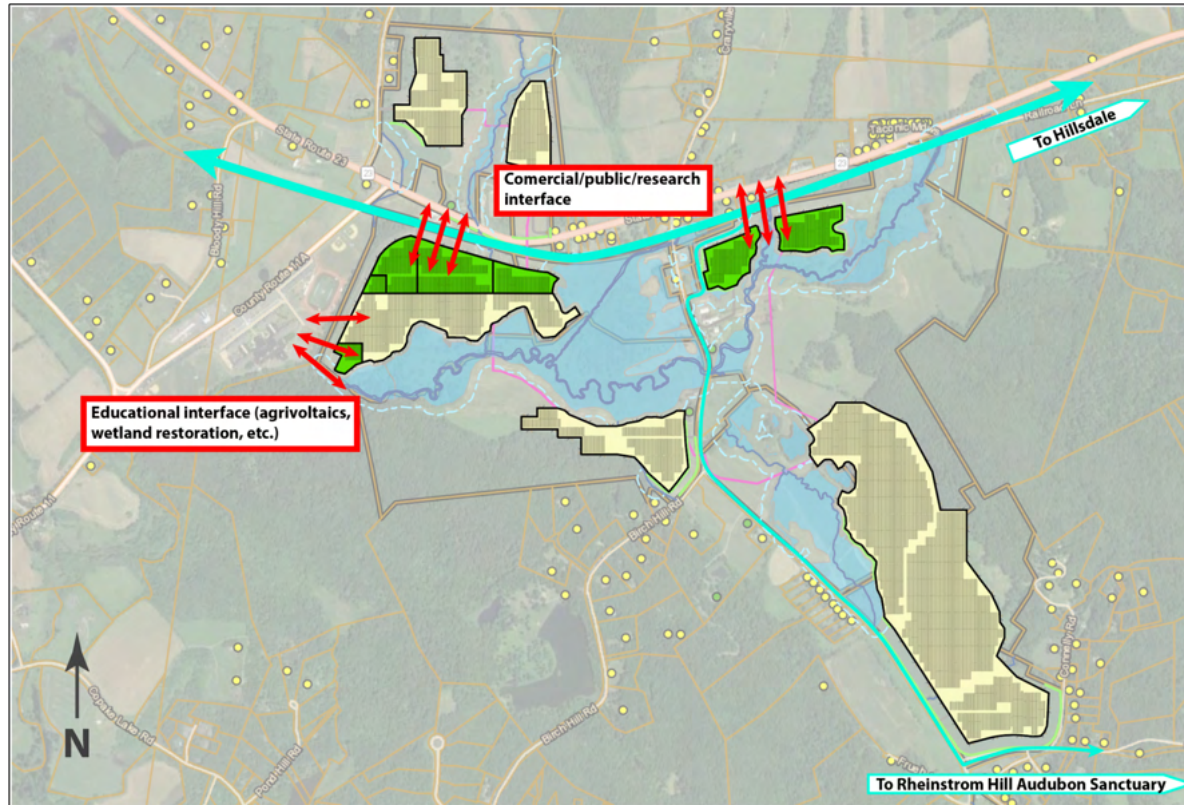
INTEGRATE SOLAR FACILITY WITH COMMUNITY ACCESS AND LOCAL ECOLOGY

- Integrate the facility with landscaping and plantings to be sensitive to broader ecological systems
- Each solar field as well as the facility as a whole should be integrated with the regional landscape in terms of topography, views and the adjacent ecological systems
- The Taghkanic Creek and its tributaries provide the water source for the City of Hudson which must be protected and conserved
- Wildlife corridors and connections should be protected and planned to allow permeability and connectivity through the site connecting to the broader regional ecologies. Wildlife corridors can coincide with mixed-use initiatives such as trails and recreation



Preliminary concept illustrating trail connection to wetlands and waterways, The Harlem Valley Rail Trail extension, hiking trails

INTEGRATION OF AGRIVOLTAICS WITH COMMUNITY ACCESS



Preliminary concept illustrating areas of agrivoltaic crop production and grazing and how these can tie into initiatives for Taconic Hills, the public, and both research and commercial partners .

PRECEDENT

[Regenerative Energy, Silicon Ranch Corporation](#)

- Designs, builds and operates utility-scale solar power plants that co-locate panels and regenerative agriculture to benefit people, land, the environment and the economy.
- Projects totalling ~1.2GW housed on ~12,500 ac, developed and operated under their Regenerative Energy platform.
- Teams with regenerative ranchers, thought-leaders, nonprofits, and communities to measure and verify outcomes.
- Leads educational initiatives for local students on solar facility engineering as well as land management with animals (agrivoltaics)

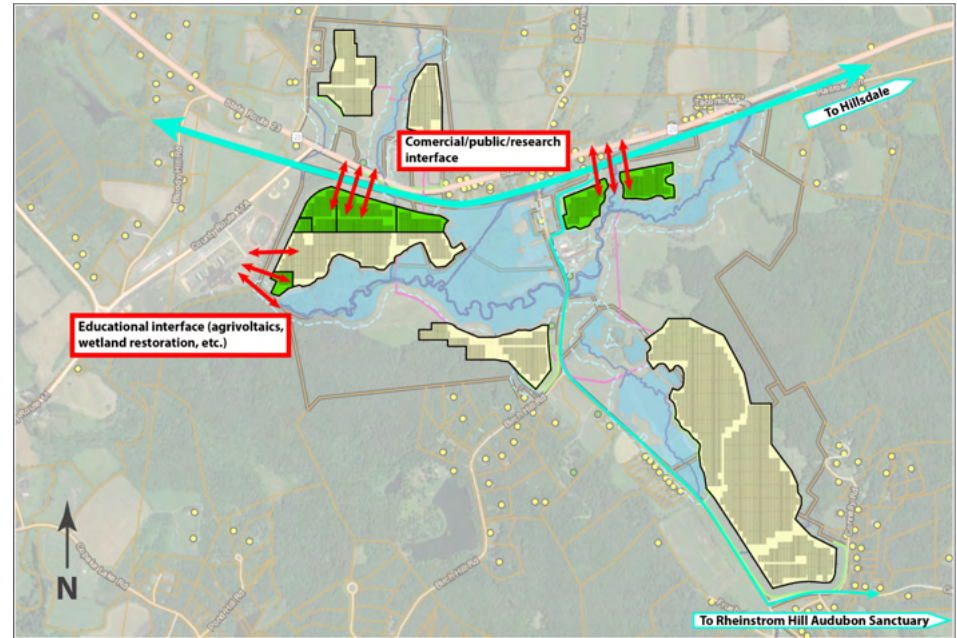
“When land and vegetation are managed properly, and in alignment with natural systems, we can revitalize soils, restore grassland ecosystems, increase biodiversity, sequester carbon, and improve water quality – all while keeping the land in agricultural production.”

AGRIVOLTAICS – ACTION STEPS

- **Secure Hecate’s commitment to an Agrivoltaic O&M Service Provider approved by the Working Group, such as Regenerative Energy LLC**
- Identify research and farming partners
- Work with research/farming partners and Agrivoltaic O&M Service Provider to determine optimal panel configurations to produce best crop-growing potential and academic research
- Work with Agrivoltaic O&M Service Provider to develop management/grazing plan
- Secure Hecate’s commitment to build the required infrastructure to enable all the above

In select areas:

- Raise panel heights and alter panel spacing to allow farm machinery underneath.*
- Create areas for access by Taconic Hills students, commercial farmers and researchers.
- Install necessary infrastructure to facilitate grazing throughout.



Preliminary concept illustrating areas of agrivoltaic crop production and grazing and how these can tie into initiatives for Taconic Hills, the public, and both research and commercial partners .

*farm machinery does not necessarily need clearance under torque tubes, nor full clearance under panels' lowest point, only under tilted panels.

COMMUNITY AND EDUCATIONAL BENEFITS - TAXES AND PAYMENTS

How can Copake directly benefit from Shepherd's Run through Hecate financial and educational contributions?

COMMUNAL PARTICIPATION

- Provide educational opportunities and foster partnerships
 - Partner with Taconic Hills Central School and other local youth organizations
 - Engage “Greenagers” – a youth training and apprenticeship – for maintenance
 - Share research and data with the Columbia Greene Cornell Agriculture Extension



Work with the adjacent Taconic Hills Central School



Provide places for learning about pollinator plants

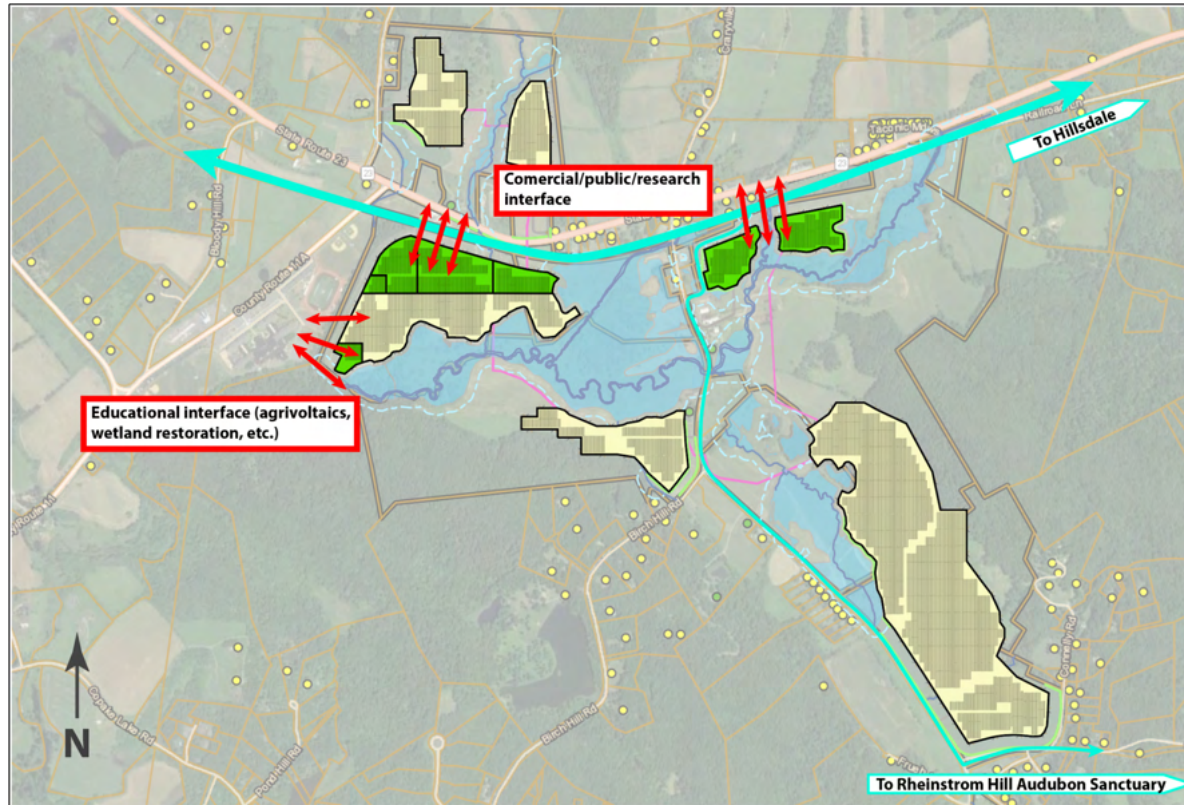


Foster hands-on learning through trail building and maintenance, and habitat restoration



Integrate programs that dovetail with science curriculum and the New York State Common Core

INTEGRATION OF AGRIVOLTAICS WITH EDUCATIONAL ACCESS



Preliminary concept illustrating areas of agrivoltaic crop production and grazing and how these can tie into initiatives for Taconic Hills, the public, and both research and commercial partners .

PANEL SOURCING

How can we ensure the panels meet ethical and environmental standards?

PROPOSAL: SOURCING RESPONSIBLY AND LOCALLY

- **Uyghur Forced Labor Prevention Act**

- Federal law (effective June 21, 2022) bans the import of goods produced in the Xinjiang Uyghur Autonomous Region (XUAR) where most solar panels and components are manufactured
- Hecate planned panel sourcing from Canadian Solar may be affected, as Canadian Solar sources panels from its 60% owned China-based subsidiary CSI Solar
- We ask Hecate to demand from supplier and assure public that all panels and or components that originate from China, regardless of interim country along the supply chain, are compliant with the Uyghur Forced Labor Prevention Act

- We ask Hecate to provide documentation showing that the **solar panels, coatings and electrical infrastructure specified for the project do not contain PFAS or other toxic chemicals**, including:

- Material and data safety sheets for all components
- Description of preventive measures and testing policies to insure components are PFAS free

- We ask Hecate to commit to **sourcing all plant and landscape materials from Columbia County and upstate New York** nurseries

- We ask Hecate to commit to prioritize **sourcing of construction materials from Columbia County and upstate New York**

DECOMMISSIONING

How can we ensure Copake is protected at the end of Shepherd's Run's lifetime?

STATE LAW REQUIRES DECOMMISSIONING PLAN AND FUNDING

94-C requires Hecate to establish a decommissioning fund equal to 115% of the estimated cost to restore the site minus the projected salvage value* of the project's components.

- Hecate has estimated decommissioning fund will total \$1.2M, and will be required by the terms of its New York State operating to post security for that full amount
- By law the project will be audited every five years to ensure sufficient fund amount, with mandatory adjustments as needed
- Pursuant to the Zoning Law of the Town of Copake, Shepherd's Run will be considered to be abandoned if the project is non-operational for a period of twelve consecutive months

**Hecate estimate calculates the salvage value as the scrap value of components, not the full resale value.*