

Henderson County Solar



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About Henderson County Solar



Henderson County Solar is a proposed:

- 50 megawatt (50MW) solar farm
- Located on a 541-acre project site just outside the city limits of the City of Henderson
- Selling 100% of its output to Henderson Municipal Power & Light (HMP&L)
- Under development by Community Energy



About Community Energy



- In business for 21 years
- A leader in the development of renewable energy projects (especially in new markets)
- Headquarters in Radnor, PA
 - Additional offices in Colorado and North Carolina
- **Successful, experienced, and trusted**



Why Henderson County?



Last year, Henderson Municipal Power & Light conducted a competitive bid process, seeking to buy solar power under a long-term fixed-price contract.

Community Energy's proposal for a solar farm in Henderson County was selected.

The result will be low-cost locally-produced solar power.



What is a 'Solar Farm'?



A '**solar farm**' is essentially a power plant that converts sunlight to electricity.

The basic building block of a solar farm is a solar panel.

Solar panels are rectangular, about 3 ft wide and 5 ft tall. They're black or dark blue, with glass on top.

A solar farm is just a whole lot of solar panels, bolted to a racking system, and placed in a field.

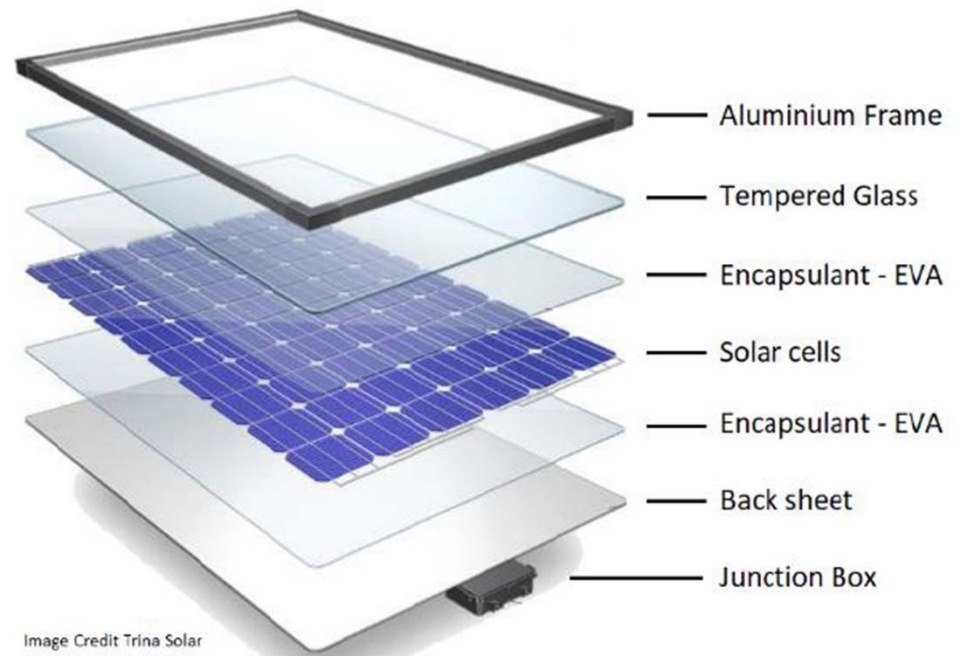


Solar Panels

Solar panels are made of simple materials, including:

- Glass (+/- 85%)
- Aluminum (+/- 8%)
- Silicon (+/- 6%)
- Wiring (+/- 1%)
 - Wiring is typically made of copper, silver, and zinc

The proposed solar farm will use 130,000 solar panels.



Racking

The proposed solar farm will use a **'Single-Axis Tracking System'** – a rotating racking system that will follow the sun from east to west.

- First, a post is driven into the ground
- Then, the racking system is bolted to the posts
- Then, the solar panels are attached to the racks



Inverters

Solar panels produce 'DC' power (the same as in a car battery).

An 'Inverter' changes the power from 'DC' power to 'AC' power (the same as you use in your home).

Inverter stations will be located throughout the solar farm.



Transformers

Solar panels produce low-voltage electricity.

Transformers are used to increase the voltage to a usable level.

“Step-up Transformers” within the solar farm increase the voltage to a level similar to the typical voltage in the power lines that run along roads.

A “Main Transformer” at the project substation increases the voltage again, to the level in the transmission line.



Substation



To gather all the electricity the solar farm will produce, a project substation will be built.

The substation will be a square area, roughly 150 ft x 150 ft, surrounded by a security fence, with electrical equipment inside.

A power line will connect the project substation to a nearby HMP&L substation.

The location of the connection to HMP&L is called the 'Point of Interconnection.'



Security Fence

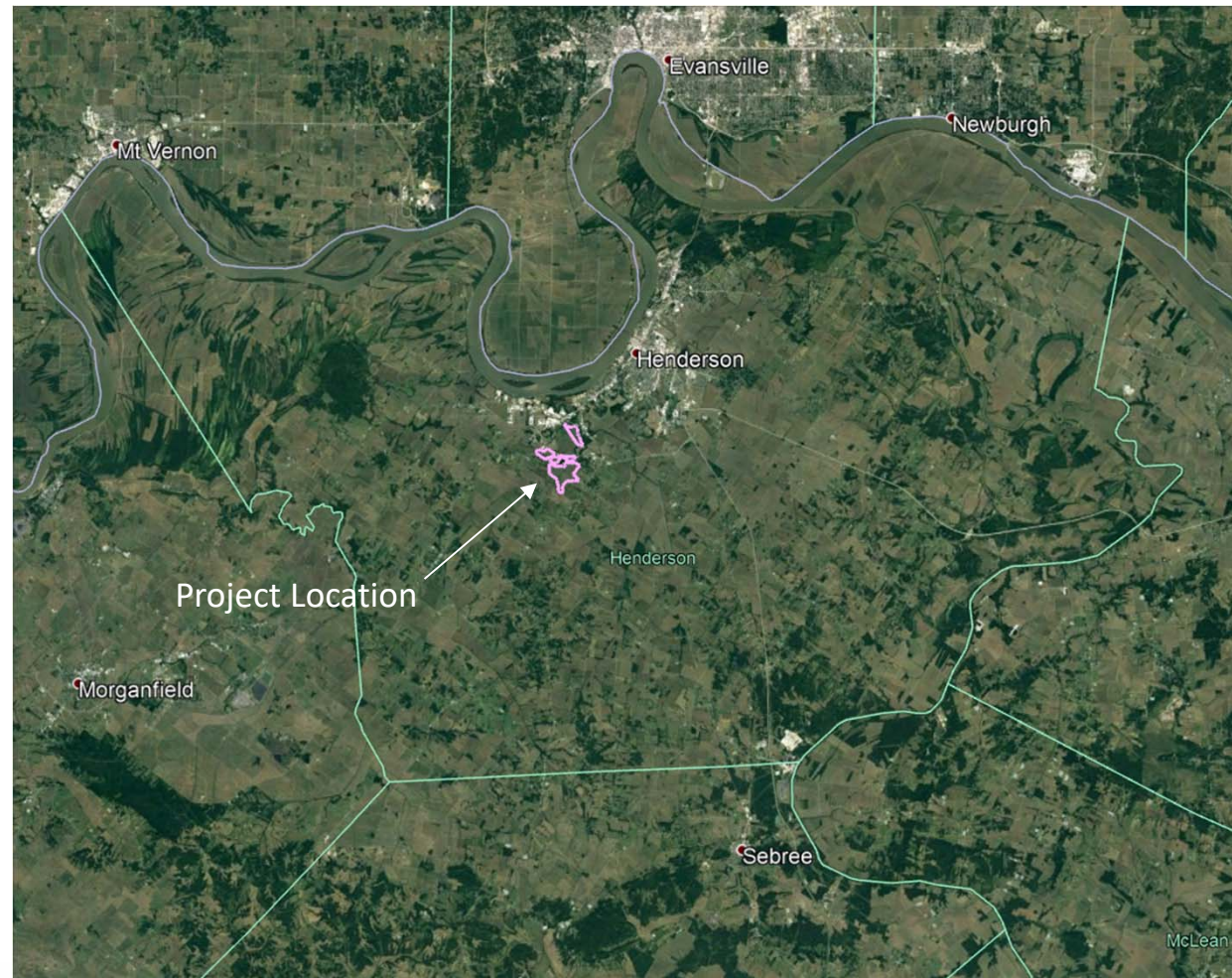


The solar farm will be built in multiple sections. Each section of the solar farm will be surrounded by a seven-foot tall security fence.

Project Location



The project will be located in central Henderson County, just outside the city limits of the City of Henderson.

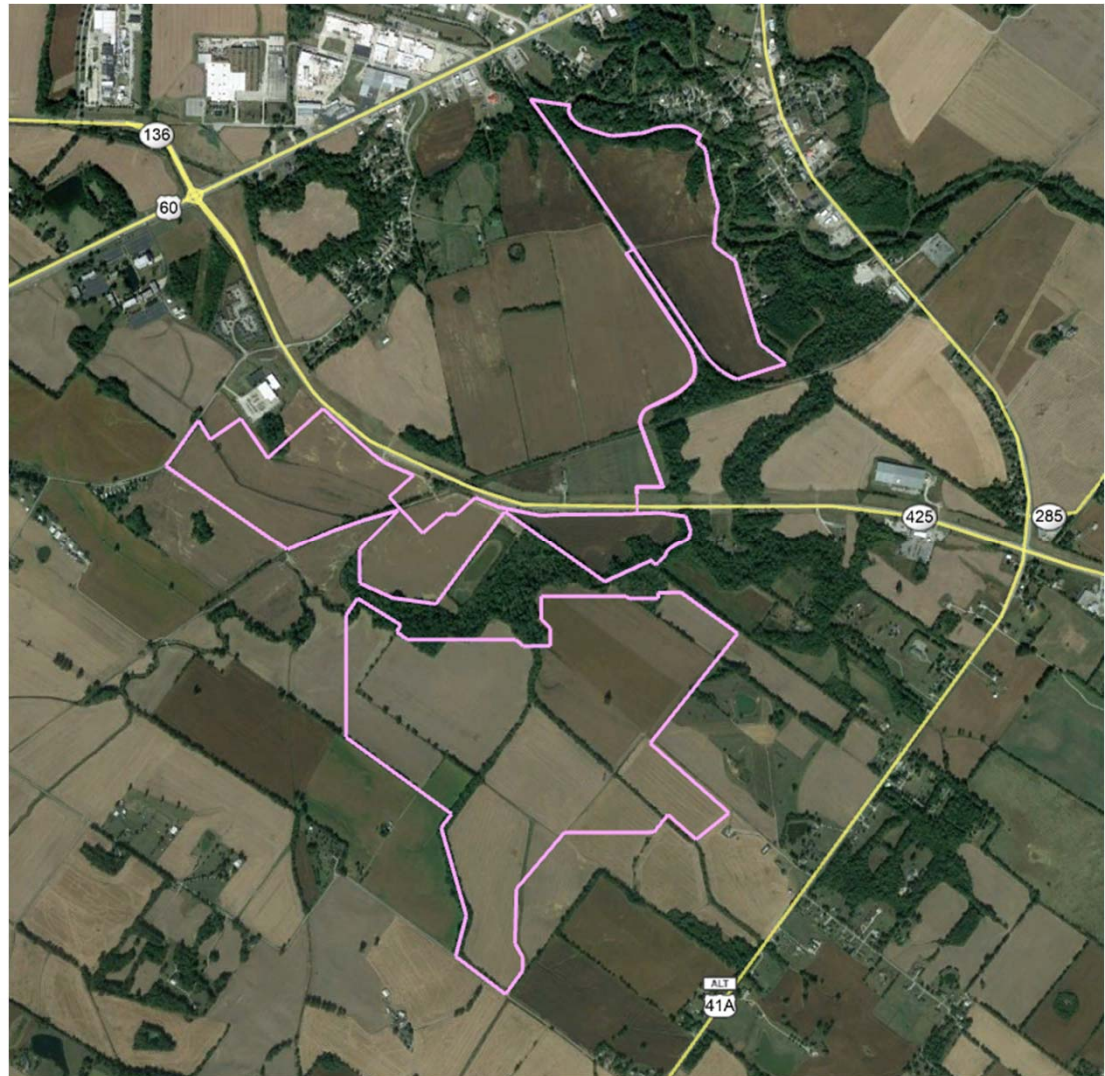


Project Site



The project site will consist of three sections totaling approximately 541 acres of land: two sections south of Hwy 425 (Henderson Bypass) and one section west of Lover's Lane.

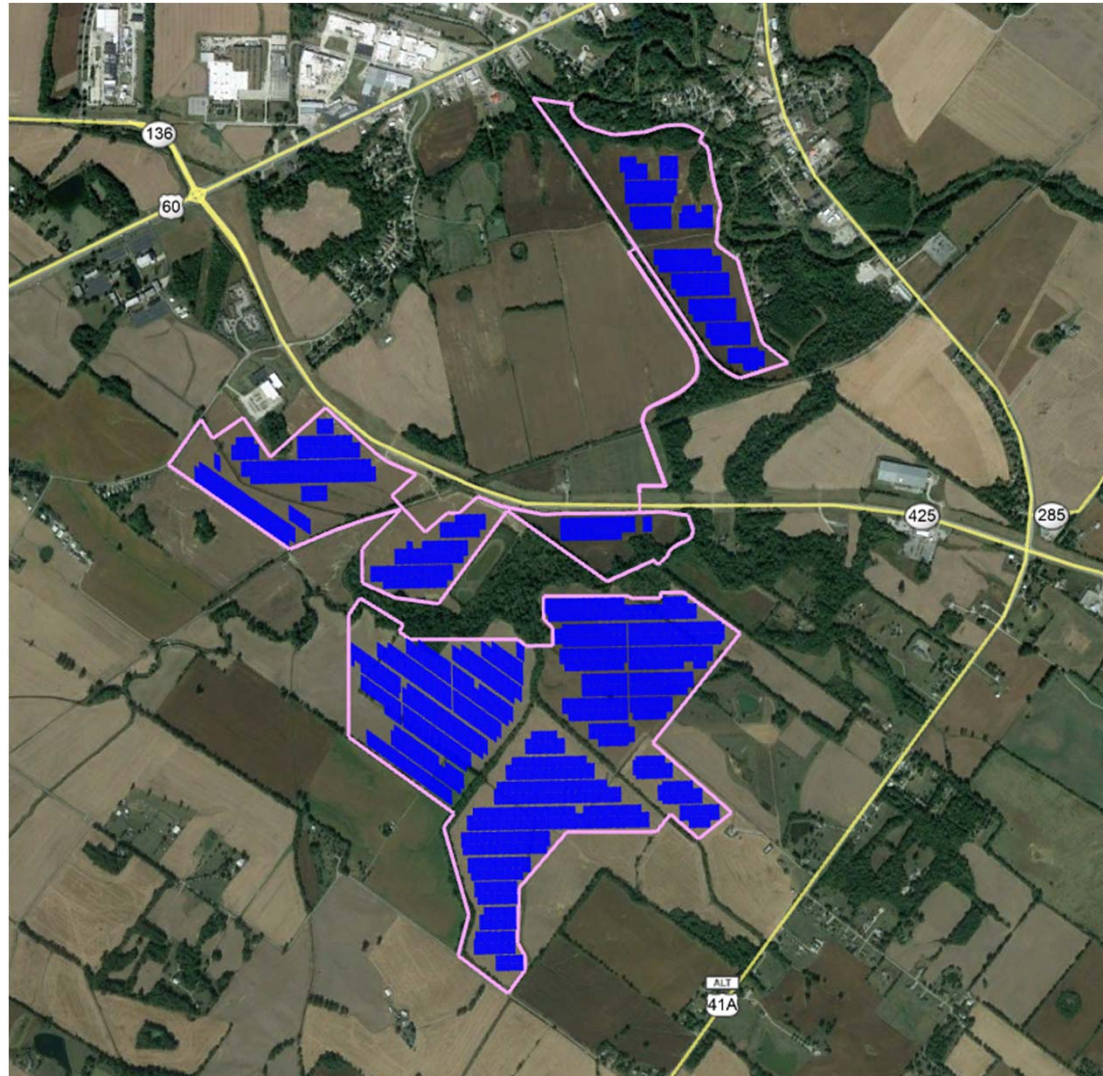
Most of the project site is currently open land used for row-cropping.



Project Layout



The solar panels and other equipment will be laid out to avoid sensitive environmental areas, and will adhere to setbacks and other provisions of Henderson County's Solar Ordinance.

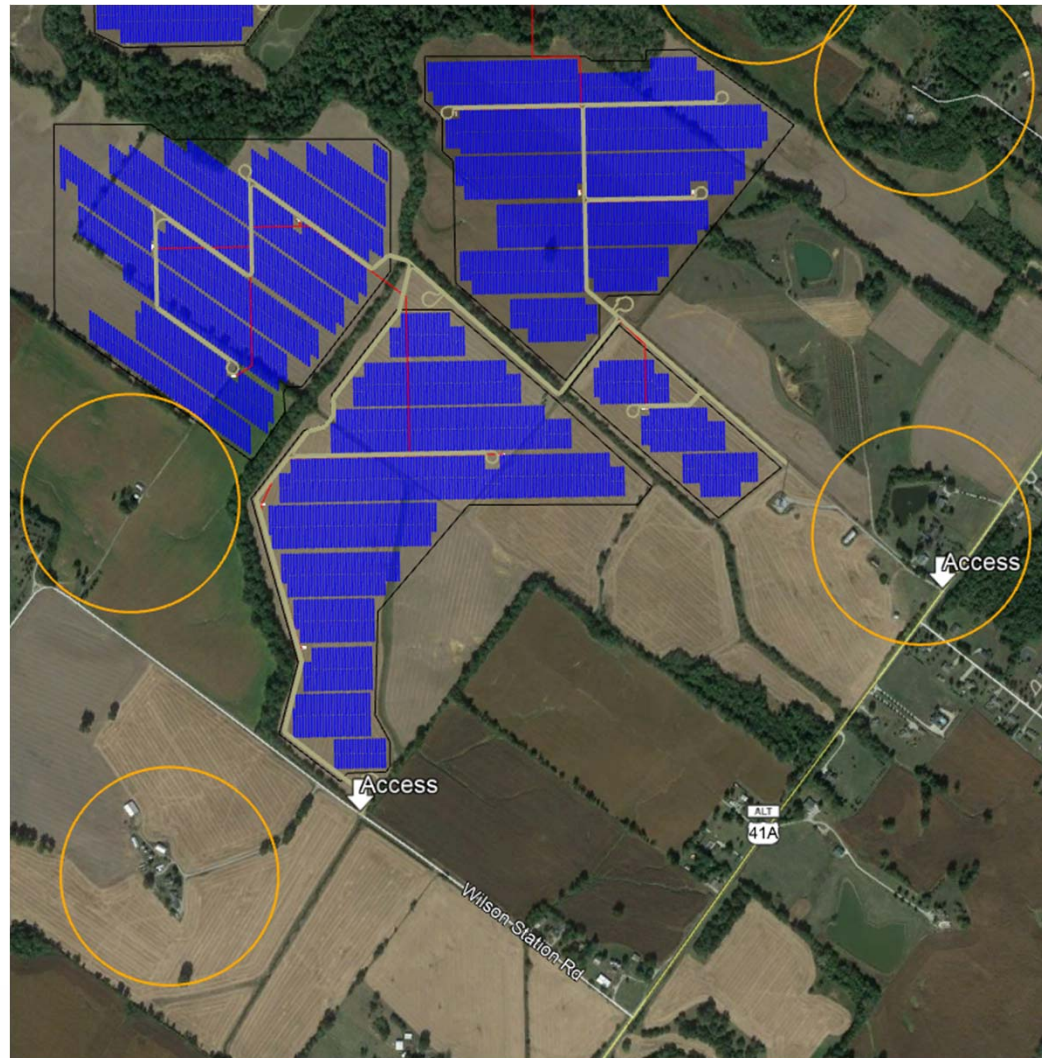


Project Layout – South Section



This close-up of the South Section of the solar farm illustrates the setbacks from neighboring houses. The orange circles have a radius of 750 feet.

The existing natural vegetation between the solar farm and neighboring houses will be retained as a visual screen.



Project Layout – Center Section



This close-up of the Center Section of the solar farm illustrates the setbacks from neighboring houses. The orange circles have a radius of 750 feet.

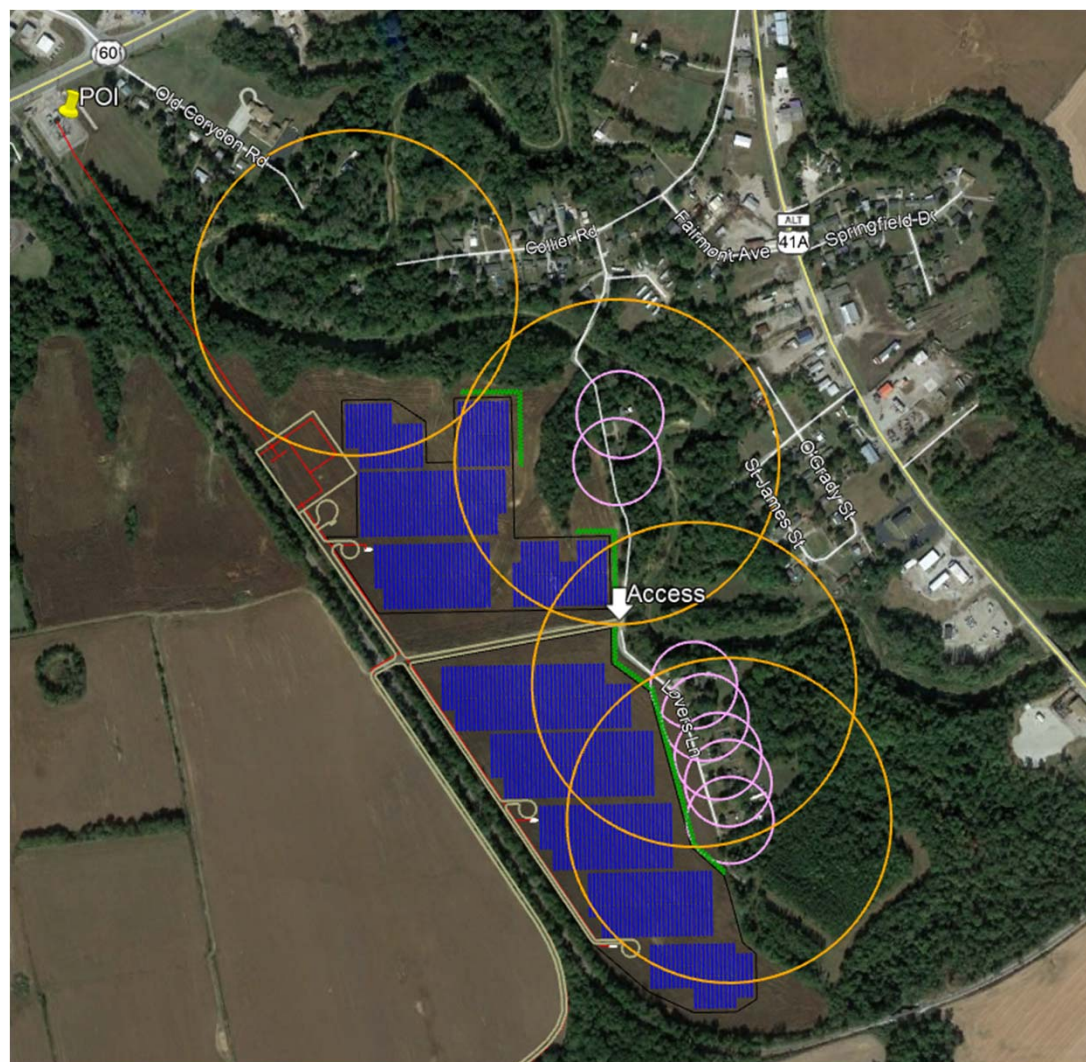


Project Layout – North Section



This close-up of the North Section of the solar farm illustrates the setbacks from neighboring houses. The orange circles have a radius of 750 feet. The pink circles have a radius of 200 feet.

Where the solar farm abuts Lover's Lane, a double offsetting row of evergreens will be planted as a visual screen.



Interconnection Studies



The HMP&L transmission system is part of a regional transmission network managed by the 'Midcontinent Independent System Operator' (MISO).



MISO will study the proposed solar farm, to determine whether the point of interconnection (the HMP&L substation) can absorb this additional power, or if the substation or HMP&L's "grid" need to be upgraded.



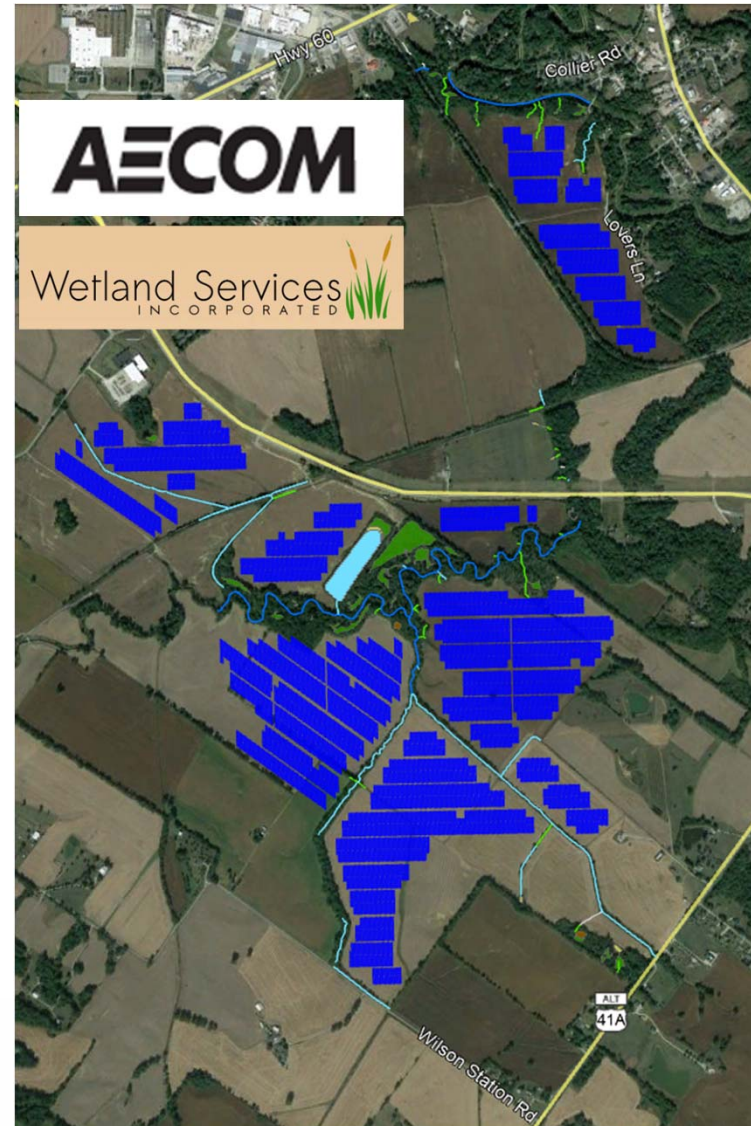
Any required upgrades will be paid for by the project.

Environmental Studies



Multiple environmental studies have already been conducted:

- Wetlands and streams eligible for protection have been identified. Any required setbacks or buffers will be observed.
- Cultural resources eligible for protection have been identified. Any required setbacks or buffers will be observed.
- Threatened and endangered wildlife habitat has been identified (bats). Any required avoidance will be observed.



Impact Study



A 'Property Value Impact Study' has been conducted to determine whether the proposed solar farm will likely have a negative impact on local property values.

The most common areas for impact on adjoining property values are, in order of importance:

1. Hazardous materials
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

- The Study reported no hazardous materials or odors associated with solar farms.
- The Study reported no instances of audible sounds at the periphery of the solar farms it inspected.
- The Study estimated that the anticipated 2-3 fulltime workers at the solar farm would not significantly impact traffic.
- The Study reported no negative stigma against solar farms as a neighboring use.
- Based on the enhanced setbacks and buffers from neighboring residences, the Study anticipated no negative visual impact from the solar farm.
- The Study concluded that the proposed solar farm would not likely have negative impact on local property values.

Acoustical Analysis



An 'Acoustical Analysis' has been conducted to determine whether the proposed solar farm will likely increase noise levels in the area.

The study concluded that the enhanced setback distances between the solar farm and neighboring residences are anticipated to diminish sounds from the solar farm to a level below 45 decibels – lower than the sound level of a quiet urban area at night.

Table 1. Sound Levels of Common Activities/Situations.

Activity/Event	dBA
Lowest audible sound to person with average hearing	0
Quiet rural, nighttime	25
Crickets, distant frogs	30
Birds, distant dog bark	40
Quiet urban, nighttime	45
Large business office	60
Normal speech at 3 feet	60-70
Noisy urban area, daytime	75
Food blender at 3 feet	85
Gas lawn mower at 3 feet	100
Jet flyover at 1,000 feet	110

County Permitting



Henderson County Solar will seek a permit from the Henderson County Planning Commission.

The permit will be subject to the project's adherence to Henderson County's Solar Ordinance, which requires:

- 25 ft setback from adjacent property lines
- 100 ft setback from neighboring houses
- 25 ft maximum height
- 7 ft tall security fence (no barbed wire)
- Visual buffer that provides reasonable screening to reduce the view of the solar farm
- Decommissioning Bond = 1% of construction cost



For more information, contact:

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State Permitting



Henderson County Solar will be seeking a **Construction Certificate** from the Kentucky Public Service Commission

The Construction Certificate will be issued by the Kentucky State Board on Electric Generation and Transmission Siting (the “**Siting Board**”).

The Siting Board review focuses on three areas:

- Environmental matters such as noise and visual impacts
- Economic impacts
- Impact of the proposed facility on Kentucky’s electric transmission grid



Kentucky Public Service Commission



Commonwealth of Kentucky
**Kentucky State Board on
Electric Generation and
Transmission Siting**

Siting Board Members



The Siting Board will be composed of seven (7) members:

- **The (3) members of the Public Service Commission**
 - Chairman (Michael J. Schmitt)
 - Vice Chairman (Kent A. Chandler)
 - Commissioner (Talina R. Mathews)
- **Two (2) members of state government**
 - The Secretary of the Kentucky Cabinet for Energy and Environment (Rebecca Goodman), or her designee
 - The Secretary of the Kentucky Cabinet for Economic Development (Larry Hayes, Interim Secretary), or his designee
- **Two (2) members of local government**
 - The Chairman of the Henderson County Planning Commission (David Dixon)
 - A resident of the County (appointed by the Governor)

Siting Board Process



The Siting Board review takes approximately nine (9) months

Key steps include:

- **Public Meeting**
 - February 11, 2021
- **Application**
 - May 14, 2021
- **Evidentiary Hearing**
 - *Optional - TBD*
- **Local Hearing**
 - *Optional - TBD*
- **Decision**
 - Anticipated Q4 2021
- **Appeal**
 - If filed within 30 days of decision

For more information on the Siting Board:

<https://psc.ky.gov/Home/EGTSB>

To see Public Service Commission filings related to this project:

https://psc.ky.gov/PSC_WebNet/ViewCaseFilings.aspx?Case=2020-00391

Case No. 2020-00391

Construction



If the Construction Certificate is approved:

- Construction will start in 2022
- Construction period will be 6-9 months
- Approximately 150 construction jobs
 - Mostly no experience required
- Hiring of local trades
 - Electric
 - Surveying
 - Earthmoving
 - Fencing
 - Landscaping



Operations and Maintenance



Typical operations and maintenance duties include:

- Preventive Maintenance
- Repair
- Mowing

Henderson County Solar will require 2-3 full-time employees for operations and maintenance.



Output



100% of the solar power produced by the Henderson County Solar project will be delivered and sold to HMP&L

The solar farm will produce **117 million** kilowatt-hours of electricity per year

This is roughly equivalent to **20% of HMP&L's total demand**



Economic Benefits

Solar farms do more than generate clean, low-cost electricity. They also generate economic growth.

The Henderson County Solar project will impact the local economy in multiple ways:

- **Construction Jobs** for local workers: 150+ jobs during the 6-9 month construction of the project
- **Construction Contracts** for local businesses: Electrical, Site Work, Landscape, etc.
- **Local Spending** during construction: Hotels, Restaurants, Shops, Entertainment, etc.
- **Long-term Tax Revenue:** The solar farm will pay substantial taxes over 30 years, without increased pressure on community services such as roads, schools, libraries, and first responders.
- **Full-Time Jobs:** 2-3 full-time operations and maintenance jobs

Summary



In a single hour, the amount of solar power that strikes the Earth is more than the entire world consumes in a year.

Henderson County Solar proposes to capture some of that solar power, convert it to usable electricity, and deliver it to the local community at a competitive price.

We seek to develop a solar project that is respectful of our neighbors, and delivers multiple benefits to the greater Henderson County community.

We invite your questions, comments, and feedback.



Contact Info



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Thank you