

# **PINE GROVE SOLAR: APPLICATION**

## **AES Clean Energy**

4200 Innslake Dr. Suite 302  
Glen Allen, VA 23060

November 2022

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- A. Context Map
- B. Impact Studies
- C. Evidence of Public Notice of Application
- D. Certificate of Compliance and Conditional Use Permit
- E. Public Involvement Activities
- F. Public Meeting Documentation
- G. KU/LG&E System Impact Study Report and KU/LG&E Facilities Study Report
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- I. Site Assessment Report

# 1. Applicant Information

REQUIREMENT: per KRS 278.706(2)(a); *The name, address, and telephone number of the person proposing to construct and own the merchant electric generating facility*

COMPLIANCE: Pine Grove Solar, LLC is a Delaware limited liability company formed on February 9, 2022. Pine Grove Solar, LLC is authorized to do business in Kentucky as of August 12, 2022. The principal contact person, name, address, and telephone number for this application are provided below.

- Name: Pine Grove Solar, LLC  
Attn: Madeleine Ray, Permitting Manager
- Address: 4200 Innslake Dr. Suite 302  
Glen Allen, VA 23060
- Phone: (440) 318-4871

## 2. Description of Proposed Site

REQUIREMENT: per KRS 278.706(2)(b); *A full description of the proposed site, including a map showing the distance of the proposed site from residential neighborhoods, the nearest residential structures, schools, and public and private parks that are located within a two (2) mile radius of the proposed facility*

COMPLIANCE: Pine Grove Solar, LLC (“Pine Grove Solar”) presents this Application to construct and operate a solar photovoltaic facility producing up to 50 MWac (the “Project”) on an assemblage of Madison County parcels from two landowners located on the eastern end of Pine Grove Road (the “Property”). The Property includes areas north and south of the road and is accessible only from Pine Grove Road. on the open market through an existing transmission line that crosses the Property.

A map showing the location of residential structures, schools, and public and private parks in relation to the Project can be found in Attachment A. There are no schools, public or private parks, or healthcare facilities within two miles of the Project’s radius. There are no residential neighborhoods, per KRS 278.700(6), within 2,000 feet of the Project’s radius. There are no hospitals and nursing home facilities within that radius.

Pine Grove Solar has leased with the option to purchase approximately 486 acres of the Property, all of which has the requisite permits for the Project. The site plan, located in Appendix B, indicates where access roads, landscaping, fencing, and other necessary setbacks will be located for the Project. The equipment onsite will consist of solar panels, racking, inverters, transformers, one substation transformer, and associated wiring and balance of system.

The Project is a low impact development because the racking system Pine Grove Solar will use has a small footprint as it does not use concrete and will be placed directly on grass. The panels are not considered impervious as rainwater can travel over and around the panels; the panels are no more than 15 feet high at the highest point. Gravel will be placed on the access roads throughout the site and will not be placed under the solar panels.

A fence meeting the National Electric Safety Code (NESC) requirements, typically a six-foot fence with three strings of barbed wire at the top, will enclose the solar panels and associated infrastructure. The substation will also be enclosed by a separate fence. The Project will comply with the NESC and American National Standards Institute (ANSI) Z535 Safety Sign Standards for Electric Utility Power Plants and Substations to guide the placement of safety signage around the facility.

The Project will comply with the Madison County Conditional Use Permit, contained in Attachment D, that requires a setback of 100 feet from the centerline of any road to the Project’s infrastructure, 100 feet between the Project’s infrastructure and any adjacent nonparticipating

property, and 200 feet between the Project's infrastructure and any adjacent property that contains a residence.

In addition, the conditions issued with the Conditional Use Permit include screening that shall consist of a continuous line of native evergreen foliage and/or native shrubs and/or native trees and/or any existing wooded area and/or plantings of tall native grasses and other native flowering plants. Screening shall not be required if solar farm is not visible to a dwelling or roadway by virtue of existing topography as determined by the Madison County Planning and Development Director.

A landscape buffer shall be retained where there is existing undeveloped forest. Per a Madison County ordinance, "Any existing tree or group of trees which stands within or near a require planting area and meets or exceeds the standards of this Ordinance may be used to satisfy the tree requirements of the planting area. The protection of tree stands, rather than individual trees, is strongly encouraged." Supplemental landscaping will be added where needed. The landscaping is intended to screen and substantially reduce the visibility of the solar arrays and their appurtenant facilities from the public right-of-way and the few residences in the area.

Due to the secluded nature of the location and considering that Pine Grove Road is not a public thoroughway, once the Project Site has been fully developed and all landscaping installed, the solar facilities should not be readily visible to the public or nearby residences.

The Project also commissioned impact studies regarding federal and state protected species that have the potential to occur at the site including Indiana Bat, Northern Long-Eared Bat, and Short's Bladderpod. A glint and glare analysis was conducted to ensure there would be no glare impact from the project on air traffic, surrounding roads, and nearby residences. The studies are attached collectively as Attachment B, all of which indicate that the Project will not have an adverse impact.

### 3. Public Notice Evidence

REQUIREMENT: per KRS 278.706(2)(c); *Evidence of public notice that shall include the location of the proposed site and a general description of the project, state that the proposed construction is subject to approval by the board, and provide the telephone number and address of the Public Service Commission. Public notice shall be given within thirty (30) days immediately preceding the application filing to:*

- 1. Landowners whose property borders the proposed site; and*
- 2. The general public in a newspaper of general circulation in the county or municipality in which the facility is proposed to be located*

COMPLIANCE: A sample letter that was sent to landowners whose property borders the proposed site, followed by the list of addresses and names of those landowners who were sent notices on November 1, 2022, is contained in Attachment C. Two copies of this notice were mailed to each landowner: one via regular USPS mail and one via USPS Certified Mail. Please see Attachment C for certified mail receipts.

Also contained in Attachment C is the affidavit of the notice published in the *Richmond Register* on November 1, 2022, which is the newspaper of general circulation in Madison County.

## 4. Compliance with Local Ordinances and Regulations

REQUIREMENT: per KRS 278.706(2)(d); *A statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control and with any local planning and zoning ordinances. The statement shall also disclose setback requirements established by the planning and zoning commission as provided under KRS 278.704(3)*

COMPLIANCE: The Project is located in Madison County. In July 2020, the Madison County Fiscal Court enacted Ordinance 20-17 requiring Commercial Solar Energy Facilities proposed on agricultural zoned land to apply for and receive a Conditional Use Permit (CUP) prior to the start of construction. Pine Grove Solar, LLC applied for the required CUP on June 6, 2022, and received approval by the Board of Adjustments on September 22, 2022.

The Madison County Board of Adjustments issued a CUP to Pine Grove Solar on September 22, 2022. The CUP includes 20 conditions that address local issues such as signage, lighting, fencing, decommissioning, and setbacks. The CUP established setbacks of 100 feet from the center of any road; 100 feet between the solar facility (including fencing, panels, structures and related equipment) and any adjacent nonparticipating property; and 200 feet between the solar facility and any adjacent property which contains a residence. A copy of the CUP is included in Attachment D.

Pine Grove Solar, LLC. certifies that the Project will follow all local ordinances and regulations concerning noise control, and with any applicable local planning and zoning ordinances. A statement certifying these facts is submitted as Attachment D.

## 5. Setback Requirements

REQUIREMENT: per KRS 278.706(2)(e); *If the facility is not proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source or in an area where a planning and zoning commission has established a setback requirement pursuant to KRS 278.704(3), a statement that the exhaust stack of the proposed facility and any wind turbine is at least one thousand (1,000) feet from the property boundary of any adjoining property owner and all proposed structures or facilities used for generation of electricity are two thousand (2,000) feet from any residential neighborhood, school, hospital, or nursing home facility, unless facilities capable of generating ten megawatts (10MW) or more currently exist on the site. If the facility is proposed to be located on a site of a former coal processing plant and the facility will use on-site waste coal as a fuel source, a statement that the proposed site is compatible with the setback requirements provided under KRS 278.704(5). If the facility is proposed to be located in a jurisdiction that has established setback requirements pursuant to KRS 278.704(3), a statement that the proposed site is in compliance with those established setback requirements:*

COMPLIANCE: The Project is not proposed to be located on the site of a former coal processing plant, nor will it use any waste coal as a fuel source. No existing electricity generating facilities are on-site at the Project location.

Madison County has established setback requirements for this location, per the information provided in Section 4. The Project will not include any exhaust stacks or wind turbines as part of the facility; therefore, there are no established setback requirements from the property boundary of any adjoining property owner to the energy generating facilities.

KRS 278.704(3) states as follows:

If the merchant electric generating facility is proposed to be located in a county or a municipality with planning and zoning, then setback requirements from a property boundary, residential neighborhood, school, hospital, or nursing home facility may be established by the planning and zoning commission. Any setback established by a planning and zoning commission for a facility in an area over which it has jurisdiction shall

- (a) Have primacy over the setback requirement in subsections (2) and (5) of this section; and
- (b) Not be subject to modification or waiver by the board through a request for deviation by the applicant, as provided in subsection (4) of this section.



The Project is within the jurisdiction of the Madison County Planning Commission and has specific setback requirements set by the CUP, which is attached in Attachment D. Accordingly, the setback requirements identified in KRS 278.704(2) and KRS 278.706(2)(e) do not apply to this Project. The Board of Adjustment's Conditional Use Permit established minimum setbacks, and the Project will comply with those setback requirements over which Madison County has primacy. As such, no motion for deviation is required.

## 6. Public Notice Report

REQUIREMENT: per KRS 278.706(2)(f); *A complete report of the applicant's public involvement program activities undertaken prior to the filing of the application, including:*

- 1. The scheduling and conducting of a public meeting in the county or counties in which the proposed facility will be constructed at least ninety (90) days prior to the filing of an application, for the purpose of informing the public of the project being considered and receiving comment on it;*
- 2. Evidence that notice of the time, subject, and location of the meeting was published in the newspaper of general circulation in the county, and that individual notice was mailed to all owners of property adjoining the proposed project at least two (2) weeks prior to the meeting; and*
- 3. Any use of media coverage, direct mailing, fliers, newsletters, additional public meetings, establishment of a community advisory group, and any other efforts to obtain local involvement in the siting process*

COMPLIANCE: Pine Grove Solar has made a substantial effort to engage the public in numerous ways regarding the Project.

### Public Meetings

Public meetings for the Project were held in person and located at a community landmark, the Madison County Public Library on June 7<sup>th</sup>, 2022. Several representatives (David Stimson, Madeleine Ray, Grant Matthews, and Helen Humphreys) of the project were present to answer questions in person. In addition, Project Manager David Stimson provided a presentation about the Project.

Two meetings were held at staggered times to allow for community members to attend a meeting convenient to their schedule.

A notice announcing the public meetings was published in the *Richmond Register* on May 24<sup>th</sup>, 2022. The Project also mailed letters, dated May 24<sup>th</sup>, 2022, to all landowners within 1 mile of the Project notifying them of the meetings. Copies of these notices attached hereto in collective Attachment E.

### Board of Adjustments Public Meeting

The Madison County Board of Adjustments met on August 18, 2022, to consider Pine Grove Solar's application for a Conditional Use Permit. Notice of that meeting was published in the *Richmond Register*, as required by local ordinance, letters were sent out to all adjacent landowners

to the Project, and signs with the meeting information were posted on each of the Project parcels. The public was allowed to make statements and ask questions about the Project during this meeting. Several representatives (David Stimson, Madeleine Ray, Helen Humphreys, Glenn Hardee, Grant Matthews, Richard Kirkland, and Dr. Paul Coomes) of the project were on site to answer questions in person. A copy of this presentation is submitted in collective Attachment F. The Board of Adjustments unanimously approved the Conditional Use Permit on September 22, 2022.

### Additional Engagement

Project Development Manager David Stimson and Community Engagement Manager Helen Humphreys met with Planning Director Bert Thomas and Magistrate John Tudor (District 3) on August 8, 2022, to discuss concerns related to stormwater runoff, decommissioning, and benefits to the residents of Madison County.

Meetings were also conducted with Aaron Montgomery of App Harvest and Matt Collins, manager of Meadow Brook Farms, which is owned by Eastern Kentucky University and is located near to the Pine Grove Solar. Partnerships were discussed that would benefit the farm, but no concrete determinations have been made.

Community Engagement Manager, Helen Humphreys and Development Manager, David Stimson also visited with local business owners, the Madison County Chamber of Commerce, and knocked on the doors of the residents of Pine Grove Road to discuss the project and field questions from July 9 through 12, 2022. In addition, Pine Grove Solar hosted a lunch with local farmers put together by the Project's primary landowner.

## 7. Efforts to locate near Existing Electric Generation

REQUIREMENT: per KRS 278.706(2)(g); *A summary of the efforts made by the applicant to locate the proposed facility on a site where existing electric generating facilities are located;*

COMPLIANCE: It is rare for utility-scale solar projects to be co-located with existing electricity generating infrastructure, such as a coal or natural gas fired power plant. Efforts were made to site the Project where there is existing electricity transmission infrastructure.

The project will interconnect to an on-site, existing transmission line owned by Kentucky Utilities Co (“KU”).

## **8. Proof of Service to County and Municipality Officials**

REQUIREMENT: per KRS 278.706(2)(h); *Proof of service of a copy of the application upon the chief executive officer of each county and municipal corporation in which the proposed facility is to be located, and upon the chief officer of each public agency charged with the duty of planning land use in the jurisdiction in which the facility is proposed to be located;*

COMPLIANCE: A copy of the Siting Board application for Pine Grove Solar will be electronically transmitted to Madison County Judge Executive and Joint Planning Commission Chairman, on the date of electronic filing of this application.

## 9. Effect on Kentucky Electricity Generation System

REQUIREMENT: per KRS 278.706(2)(i); *An analysis of the proposed facility's projected effect on the electricity transmission system in Kentucky;*

COMPLIANCE: The Project will inject renewable electricity generated by the sun into the electricity transmission system in Kentucky.

The Project is located within the territory of Louisville Gas and Electric Company and Kentucky Utilities Company (collectively “LG&E/KU”). LG&E/KU is a regulated Utility for 98 different counties in Virginia and Kentucky and also Louisville, which owns the transmission infrastructure to which the project is proposing to interconnect. The interconnection study process in LG&E/KU involves three study phases: Feasibility Study, System Impact Study, and Facilities Study.

Pine Grove Solar made an interconnection application to LG&E/KU. The (LGE-GIS-2020-001) interconnection application to LG&E/KU was filed in September 2020 to interconnect the project on the Lake Reba Tap – West Irvine Tap 161 kV transmission line. Following the application, a kickoff call with LG&E/KU was held to begin the study process.

During the kickoff call with LG&E/KU, the utility determined that a Feasibility Study was not necessary, and the project was allowed to progress directly to the next study phase. The System Impact Study determines potential impacts to the regional electric grid and the need for any network upgrades to mitigate potential impacts. The System Impact Study Report for the Project was issued in February 2021. The third and final step, the Facilities Study, was completed in January 2022. These two reports can be found collectively in Attachment G.

During the System Impact Study, the Project was reviewed for the potential to impact adjoining utilities’ transmission systems outside of LG&E/KU territory. No Affected Systems (Ad Hoc Group Members) chose to provide independent testing results, nor provide comments to the System Impact Study report.

Key purposes of the study process are to determine impacts to the LG&E/KU transmission system caused by the Project, identify required network upgrades, and provide estimates for the costs of such upgrades. The Project will be required to pay the costs identified prior to LG&E/KU performing design, procurement, and installation of the network upgrades.

## 10. Effect on Local and Regional Economies

REQUIREMENT: per KRS 278.706(2)(j); *An analysis of the proposed facility's economic impact on the affected region and the state;*

COMPLIANCE: See Attachment H for a report on the projected impact of the Project on local and regional economies, written by Paul A. Coomes, Ph.D., an Emeritus Professor of Economics from the University of Louisville.

On page 1 of the report, it states:

“There are two primary impacts expected from the project. First, there will be a spike in construction and linked jobs as the site is built out over approximately one year, with a commensurate increase in County occupational tax receipts. Using estimates of the construction payroll, I estimate that there will be a total (direct and spinoff) of 165 new jobs in the County in year one, with new payroll of \$11.6 million. That payroll would yield \$116,000 in one-time occupational tax receipts for Madison County. Second, there will be three to four decades of new property-related tax payments to state and local jurisdictions in Madison County due to the increased value of real estate, machinery and tangible property installed at the site. Over 35 years, this would lead to \$6.01 million in property tax revenues for local government jurisdictions in Madison County. The six land parcels involved generated \$2,100 in property taxes in 2021, almost all going to local jurisdictions. This can be compared to an average of \$172,000 likely to be generated per year by the solar project over the life of the project.”

## 11. Record of Environmental Violations

REQUIREMENT: per KRS 278.706(2)(k); *A detailed listing of all violations by it, or any person with an ownership interest, of federal or state environmental laws, rules, or administrative regulations, whether judicial or administrative, where violations have resulted in criminal convictions or civil or administrative fines exceeding five thousand dollars (\$5,000). The status of any pending action, whether judicial or administrative, shall also be submitted;*

COMPLIANCE: Neither Pine Grove Solar, nor any entity with ownership interest in the Project, has violated any state or federal environmental laws or regulations. There are no pending actions against Pine Grove Solar, nor any entity with ownership interest in the Project.



## 12. Site Assessment Report

REQUIREMENT: per KRS 278.706(2)(1); *A site assessment report as specified in KRS 278.708. The applicant may submit and the board may accept documentation of compliance with the National Environmental Policy Act (NEPA) rather than a site assessment report*

COMPLIANCE: The Site Assessment report is being contemporaneously filed herewith; please see the separately filed document titled “Pine Grove Solar: Site Assessment Report.”

# 13. Cumulative Environmental Assessment Summary

REQUIREMENT: per KRS 224.10-280; *Cumulative environmental assessment and fee required before construction of facility for generating electricity -- Conditions imposed by cabinet -- Administrative regulations.*

*(1) Except for a person that commenced construction of a facility prior to April 15, 2002, or that has received a certificate of public convenience and necessity from the Public Service Commission prior to April 15, 2002, no person shall commence to construct a facility to be used for the generation of electricity unless the person:*

*(a) Submits a cumulative environmental assessment to the cabinet with the permit application; and*

*(b) Remits a fee set pursuant to KRS 224.10-100(20) by the cabinet to defray the cost of processing the cumulative environmental assessment.*

*(2) The person may submit and the cabinet may accept documentation of compliance with the National Environmental Policy Act (NEPA) as satisfying the requirements to file a cumulative environmental assessment under subsection (1) of this section.*

*(3) The cumulative environmental assessment shall contain a description, with appropriate analytical support, of:*

*(a) For air pollutants:*

*1. Types and quantities of air pollutants that will be emitted from the facility; and*

*2. A description of the methods to be used to control those emissions;*

*(b) For water pollutants:*

*1. Types and quantities of water pollutants that will be discharged from the facility into the waters of the Commonwealth; and*

*2. A description of the methods to be used to control those discharges;*

*(c) For wastes:*

*1. Types and quantities of wastes that will be generated by the facility; and*

*2. A description of the methods to be used to manage and dispose of such wastes; and*

*(d) For water withdrawal:*

*1. Identification of the source and volume of anticipated water withdrawal needed to support facility construction and operations; and*

*2. A description of the methods to be used for managing water usage and withdrawal.*

*(4) The cabinet may impose such conditions regarding the timing, volume, duration, or type of pollutants on a permit, registration, general permit, or permit-by-rule for a facility subject to this section as are necessary to comply with applicable standards.*

*(5) The cabinet may promulgate administrative regulations to implement the provisions of this section.*

COMPLIANCE: Construction and associated land disturbance associated with the proposed project may temporarily contribute airborne materials. The Project will utilize Best Management Practices (BMPs) such as: appropriate revegetation measures, application of water or covering of spoil piles, to minimize dust. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities water may be applied to the internal road network to reduce dust generation. Water used for dust control is authorized under the Kentucky Pollutant Discharge Elimination System (KPDES) as a non-stormwater discharge activity. A KPDES permit will be required for the proposed project.

Project construction may result in stormwater runoff. To mitigate the effects from these activities, BMPs will be utilized to protect jurisdictional wetlands and streams from sedimentation and prevent the migration of silt and sediment offsite. Silt fences, sediment basins, and 25-foot buffer zones will be used to prevent sedimentation of wetlands. Erosion control measures in disturbed areas, including using water to prevent dust and help compact the soil, will prevent sediment from entering jurisdictional waters and from moving offsite.

Temporary impacts to delineated surface waters will be minimized to the extent practicable. The site has a small number of streams and wetlands present that will not be impacted by the placement of fill to construct facilities. The design of the project allows buffers between Project facilities and avoidance measures such as horizontal directional drilling of underground electrical collection cables will be used to cross surface water features.

Furthermore, in compliance with Kentucky Department of Water (KDOW), a stormwater pollution prevention plan (SWPPP) will be prepared and implemented during construction. The Project will also comply with the KDOW Construction Storm Water Discharge General Permit for activities actions that will disturb one or more acres of land. A Notice of Intent and Notice of Completion will be submitted to KDOW prior to and upon completion of construction.

Additionally, the Project will not generate wastewater during construction or operation. The primary sources of waste during Project operation are expected to be the maintenance of equipment, vehicles, and machinery and the replacement of damaged materials and materials that have reached the end of their serviceable life. Maintenance machinery and vehicles will include semi-trucks, work trucks, and other equipment that uses gasoline, diesel, engine oil, and other petroleum-based products. The risk of spills will be limited through the use of safe refueling practices and in the event of spill the appropriate measures will be taken to remediate.

Liquid supplies stored onsite may include cleaning supplies, pesticides and herbicides, air conditioning fluids, machinery maintenance supplies (hydraulics fluids, degreasers), fuels (gasoline or diesel), paints, and propane. It is expected that these materials will be kept in small quantities, measuring less than 55 gallons, 500 pounds, or 200 cubic feet of each substance.

Material containment will abide by the appropriate measures and safe storage requirements through a Spill Prevention Control and Countermeasure Plan. Materials and containers will be monitored for leaks or degradation of containment.

Small quantities of other waste (paper, packaging, etc.) will be produced during Project construction and operations. Appropriate disposal plans are in place for removing waste from the Project site to appropriate disposal or recycling facilities. Therefore, while Project construction and operations will generate hazardous and non-hazardous waste, due to their limited quantities and the implementation of spill prevention measures, they are not expected to negatively impact on-site or off-site resources.

Water withdrawal necessary for construction of the project will source from existing on-site wells.

The Cumulative Environmental Assessment itself will be submitted separately to the Cabinet and filed with the Siting Board.