Farmland Considerations for Siting Grid-Scale Solar Panels

This resource aims to guide informed decisions by landowners, investors, planners, and government officials in considering the planning and siting of grid-scale solar systems.

The intent is to balance and promote the goals of sustainable income-generation and protection of water, soil, and valuable agricultural land resources.

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PA Department of Agriculture
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Overview

The Pennsylvania Department of Agriculture (PDA) supports the advancement of technologies that create jobs and generate long-term revenue opportunities for Pennsylvania farmers and landowners, without compromising food and fiber production. Solar energy production is a climate-smart practice that has the potential to meet those goals while reducing emissions and helping to address the negative impacts of climate change.

Farmland in the commonwealth serves to increase food security, protect our agricultural heritage, and support adjacent natural resources. As in the past, there are competing land uses that threaten existing and future farmland. Traditionally, these alternate land uses result in permanent development and loss of local ownership. Well-planned and implemented solar projects can serve as a non-permanent land use, income for the landowner, and can ensure continued agricultural production.

PDA supports the commonwealth principles for solar for the implementation of grid-scale solar as a means by which Pennsylvania can address climate mitigation and adaptation. These principles include:

- Prioritize reuse and repurposing of previously impacted lands to make these sites viable alternatives for hosting grid-scale solar development compared to greenfield areas such as agricultural and forested lands.
- Balance potential opportunities of grid-scale solar energy projects with priorities and benefits of agricultural preservation and sustainable forest management.
- Support project siting that elevates equitable sharing of environmental, health, social, and economic benefits while advancing the commonwealth's environmental and climate justice goals.
- Respect local decision-making on the siting of projects within parameters established in existing and informed community-based comprehensive planning efforts.
- Protect landowner interests and safeguard future land uses through informed project planning that includes project decommissioning plans to ensure site restoration following project closure

Sustainable Siting Considerations

- Location
    - Deploy solar on non-agricultural and non-forested land whenever possible (roofs, parking lots, brownfields, etc...). Class one through four soils should be avoided.
    - Ensure that farming can continue, including those lands leased for agricultural production.
- Maintenance
    - All vegetation and seeds used on solar production sites should be native and be void of invasive species. Vegetation should support soil health and pollinators.
    - Vegetation maintenance by animal grazing should be prioritized over mechanical management. Farmers who provide animals to graze on the site should be compensated for the service.
    - Ensure there is a decommissioning plan and transition plan for the agricultural operation at the end of the project's life span. Decommissioning plans should include full mitigation of land impacts and proper soil restoration to ensure the land is agriculture ready.
- Innovation and Integration
    - Solar companies should make every effort to ensure agricultural operations can continue to farm with the solar system (agrivoltaics). "Agrivoltaics is the use of land for both agriculture and solar photovoltaic energy generation…This system looks at agriculture and solar energy production as compliments to the other instead of as competitors".[1]
    - Solar developers should strive to meet agricultural production needs. Farmers may need panels to be elevated and or spaced farther apart to ensure continued agricultural production. Companies should meet these needs or identify tertiary funding that can support these accommodations.

[1] United States Department of Agriculture . (2020). *USDA Climate Hubs: Agrivoltaics* . Retrieved from USDA Climate Hubs : https://www.climatehubs.usda.gov/hubs/northeast/topic/agrivoltaics-coming-soon-farm-near-you

Frequently Asked Questions: For Farmland Owners

1. Is the farm in an Agricultural Security Area (ASA)?
    - There are no restrictions or limitations related to commercial solar development on a property that is simply enrolled in the ASA. However, the property will potentially be removed from the ASA when the township does a seven-year review if it no longer meets the evaluation criteria for inclusion in the ASA. There is no penalty for changing use or removing property. The landowner can also submit in writing that they no longer wish to be enrolled and be removed at any time.
2. Is the farm in an Agricultural Security Area and preserved through a permanent Agricultural Conservation Easement?
    - ASA is a prerequisite for the state farmland preservation program. Unlike the ASA designation alone, if the farm is also subject to a permanent agricultural conservation easement, the landowner may not engage in commercial solar development. The deed of easement is in perpetuity and may not be extinguished.
    - Energy generated primarily for use on the farm is permitted under the county farmland preservation program's rural enterprise criteria.
3. Is the farm enrolled in the Clean and Green preferential assessment program?
    - If the farm is enrolled in Clean and Green, the landowner may not engage in commercial solar development without triggering rollback taxes on the entire enrolled acreage. However, unlike the Farmland Preservation Program, the landowner may break the covenant and pay rollback taxes and be removed. Any remaining eligible acreage after a rollback tax penalty is triggered is automatically re-enrolled unless the landowner wishes to be removed.
    - Like farmland preservation, energy primarily for use on the farm is permitted under the definitions of eligibility.
4. Is zoning a consideration?
    - Zoning is done locally by townships under the authority of the Municipalities Planning Code (MPC). It is possible a zoning ordinance will <u>not</u> identify commercial solar as a specific use. In that case, zoning will need to determine if solar may be permitted as another use expressly permitted. Farm owners should check with townships to make sure land is zoned appropriately prior to executing a lease agreement.
    - Zoning is encouraged to both protect agricultural land and guide development.
5. Is solar considered "agriculture" by definition in Pennsylvania's laws?
    - Although commercial scale solar is often called a "solar farm", it does not meet the definition of normal farming activity under the Right to Farm Act. Therefore, it will not receive protection from local ordinances and lawsuits, otherwise given to agricultural operations.
6. Must I obtain a permit from Department of Environmental Protection?
    - A construction stormwater permit may be required if the panels disturb greater than one acre, per National Pollution Discharge Elimination System (NPDES).

Farm owners should consult with county conservation district or DEP for additional information.

7. Is the farm enrolled in federal Conservation Reserve Program (CRP) or Conservation Reserve Enhancement Program (CREP)?
    - Solar panels are not permitted on lands subject to CRP and CREP contracts. Specific questions may be directed to the local USDA Farm Service Agency.
8. Will the solar panels affect my conservation and best management practices that are part of a conservation plan?
    - Farm owners should notify county conservation districts or local USDA-Natural Resources Conservation Service (NRCS) office to update conservation plans as needed. If cost share was received (Environmental Quality Incentives Program, for example), farm owners should first obtain approvals prior to signing a lease agreement.

Other Resources:

- PA Department of Conservation and Natural Resources: Conservation Considerations for siting, planning, and maintaining grid-scale solar systems in Pennsylvania.
- U.S. Department of Energy: Farmer's Guide to Going Solar
- Penn State Extension: Pennsylvania Landowners Guide to Utility-Scale Solar Leasing
- Penn State Extension: Solar Webinars
- American Farmland Trust: Smart Solar℠ Guiding Principles
- PA Public Utility Commission: Solar Land Lease Agreements for Landowners
- National Agriculture Law Center: Farmland Owner's Guide to Solar Leasing
- Solar Energy Industry Association: Guide to Land Leases for Solar
- American Planning Association: Planning for Utility-Scale Solar Energy Facilities