DEPLOYING UTILITY-SCALE SOLAR RESPONSIBLY

Josephus Allmond // Southern Environmental Law Center // jallmond@selcva.org
Patrick Fanning // Chesapeake Bay Foundation // PFanning@cbf.org
Ashish Kapoor // Piedmont Environmental Council // AKapoor@pecva.org

EXECUTIVE SUMMARY

Utility-scale solar facilities are a key component of Virginia's transition to a clean energy future. However, the Commonwealth must ensure that impacts on Virginia's farms, forests, and streams are minimized. Through regulations and incentives, we can encourage siting of solar facilities on already impacted lands such as brownfields and mine sites. Where facilities must be sited on lands with prime agricultural soils or forest, regulations are needed to minimize impacts. Further, best management practices, including the reduction of soil compaction and grading, and the use of appropriate stormwater runoff calculations, should be applied to reduce downstream water quality impacts.

CHALLENGE

There has been a sharp increase in the size and scale of Virginia's utility-scale solar facilities. This trend is likely to continue as Virginia transitions to reach both its 100% renewable goals under the Virginia Clean Economy Act (VCEA) and meet increased energy demand from data centers. While this creates revenue and job opportunities in rural communities, it also raises land use challenges.

On average, utility-scale solar requires seven to ten acres per megawatt produced. As of March 2023, DEQ had permits and applications for over 6 GWs, expected to cover nearly 70,000 acres in Virginia.[1] Many of these facilities are being sited in rural localities with little experience permitting large construction projects and a majority of these localities do not even have established solar ordinances.[2] Moreover, two-thirds of localities do not identify land areas for large-scale solar siting in their comprehensive plans.[3]

Virginia needs greater deployment of renewable energy projects. However, decision-makers must ensure proper site selection and heed practices to minimize any associated negative impacts. Notably, water quality compliance challenges were identified by DEQ at a recent Chesapeake Bay technical stakeholder group, highlighting the need for compliance assistance and enforcement of erosion and sediment control and stormwater management requirements.[4] Virginia should look to examples in other states and countries where stakeholders are committed to balancing meaningful utility-scale solar deployment with careful protection of farms and forests and with minimal impact on habitat and historic, cultural, and scenic resources.

SOLUTION

Virginia's policymakers should implement and promote best practices for utility-scale solar, including:

SELECT SITES STRATEGICALLY

Incentivize development on prior disturbed lands such as post-mining land, parking lots, highway medians, landfills, and brownfields to reduce unnecessary impacts to forests and agriculturally productive lands.[5]

FOLLOW BEST MANAGEMENT PRACTICES

Projects should include recognized best management practices for water quality, erosion control, minimizing wildlife impacts, minimizing anticipatory clearing of forest land, and carbon sequestration. This includes the use of native pollinator plants, limited soil compaction during construction, minimal site grading, and the use of agrivoltaics.

PROVIDE LOCALITIES WITH TECHNICAL ASSISTANCE

Support localities through state-supported technical assistance to help regulate solar land use within their jurisdictions. Such assistance should include guidance on maximizing revenue streams and ensuring a funded decommissioning process to mitigate the facility's impacts on the land if and when the site ceases to operate.

ENCOURAGE COMMUNITY BENEFIT AGREEMENTS (CBAS)

CBAs are legally enforceable contracts between the developer of a project and the community, or a coalition of community-based organizations. CBAs stipulate the benefits that a project developer agrees to fund or implement, in exchange for community support of the project. Benefits can include commitments to hire directly from the community, local workforce training guarantees, contributions to local environmental remediation projects, and provide flexibility to address local concerns.

POLICY RECOMMENDATIONS

- $35M each year for the Virginia Brownfield and Coal Mine Renewable Energy Grant Program to incentivize solar on compromised land and formerly mined sites.
- Increase capacity at relevant agencies to implement agrivoltaics pilot programs and provide technical support for localities implementing solar ordinances.
- Maintain adequate staffing to ensure sufficient enforcement of water quality requirements, mitigation for adverse cumulative impacts to ecosystem services, and consistency with Chesapeake Bay TMDL goals.
- Develop regulations to minimize impacts to prime agricultural soils and forested lands and, where unavoidable, to adequately mitigate adverse impacts.
- Encourage localities to utilize CBAs and ensure robust public participation in the process of developing CBAs.