

VIA ELECTRONIC MAIL

Susan Tripp
1111 E. Main St.
Suite 1400
P.O. Box 1105
Richmond, VA 23218
Susan.Tripp@deq.virginia.gov

**RE: Public Comment Opportunity – Proposed Regulations Amending 9 Va. Admin. Code
§§ 15-60-10 to 15-60-140**

Dear Ms. Tripp:

The Southern Environmental Law Center, Appalachian Voices, Chesapeake Climate Action Network, Natural Resources Defense Council, and the Sierra Club appreciate the opportunity to provide the following comments¹ on the Virginia Department of Environmental Quality's Proposed Regulations amending 9 Va. Admin. Code §§ 15-60-10 to 15-60-140, pursuant to House Bill 206, Chapter 688 of the 2022 Acts of Assembly ("House Bill 206").

I. Introduction

Virginia law is indisputably in favor of—and invested in—solar. Time and again, the General Assembly has codified laws that encourage solar development and recognize its environmental and economic benefits. These policy determinations were made in furtherance of a clean energy transition and creation of a renewable energy economy, laying the groundwork for a carbon-free, healthy Virginia. The most prominent example is the Virginia Clean Economy Act ("VCEA"), which set Virginia's investor-owned utilities on a path to 100% carbon-free energy by 2045 and 2050. Building additional solar energy in the Commonwealth is a vital piece of this puzzle, as reflected by the VCEA's ambitious renewable energy targets—including a 16,100 MW

¹ 41 Va. Reg. Regs. 489 (Oct. 7, 2024).

target for Virginia Electric and Power Company (“Dominion”) and a 600 MW target for Appalachian Power Company (“APCo”).² The preference for solar projects is also reflected in the Code’s declaration that “small renewable energy projects,” including solar facilities up to 150 megawatts (“MWs”), are “in the public interest.”³

With the passage of House Bill 206,⁴ the General Assembly likewise sought to improve the impact of solar on the Commonwealth by requiring the Virginia Department of Environmental Quality (“DEQ” or “the Agency”) to develop regulations that protect prime agricultural soils and forest lands and incentivize environmentally sensitive practices in solar development. By pursuing these ends, House Bill 206 and its implementing regulations have the potential to shape the character of future solar facilities, enhance the benefits, and reduce perceived and actual negative impacts of utility-scale solar. Achieving this outcome is vital to lay the groundwork for a clean energy future. As the process undertaken to develop the Proposed Regulations has revealed, however, “balanc[ing] the need for new renewable energy generation with adverse impacts to prime agricultural soils and forest land”⁵ is not simple.

Indeed, it is not clear that the Proposed Regulations have achieved this balance yet, though certain aspects reflect a promising start. As discussed in the following comments, the conservation easement approach to mitigating impacts from solar projects that disturb prime agricultural soils or forest lands addresses concerns about solar land use. But the costs for developers to comply with the Proposed Regulations—which could easily exceed \$2,000,000 at larger facilities—fail to reflect the benefits and necessity of utility-scale solar. Particularly for the largest solar facilities,

² See Va. Code § 56-585.5(D).

³ *Id.* §§ 10.1-1197.5, 56-580(D).

⁴ 2022 Va. Acts Ch. 288, codified at Va. Code § 10.1-1197.6.

⁵ See *Proposed Regulation Agency Background Document*, Va. Dep’t of Env’tl Quality (Jul. 10, 2024), at 4, https://www.townhall.virginia.gov/L/GetFile.cfm?File=53\6246\10341\AgencyStatement_DEQ_10341_v2.pdf.

the costs also risk undermining the goals of House Bill 206 by driving facilities out of the Permit-by-Rule process to instead seek approval through a lengthier State Corporation Commission (“SCC” or “Commission”) proceeding. This outcome would run counter to all stakeholder interests. It would not serve solar developers’ interests in participating in the more efficient Permit-by-Rule approval process, thereby undermining the VCEA’s goal for a swift clean energy transition. It would also, by reducing the number of facilities that might otherwise have been shaped through House Bill 206 and its implementing regulations, not serve local, agricultural, and environmental interests who hope to see the Proposed Regulations’ mitigation requirements and incentives improve future solar facilities. And, finally, driving the costs of solar development up—whether through a more onerous process or significant mitigation costs—will not serve ratepayer interests in affordable energy bills.

In this vein, we offer the following comments to assist DEQ in finalizing rules that achieve the desired objectives under House Bill 206, while also furthering state policy objectives under the VCEA—improving the outcome for all interested parties.

Specifically, we offer the following recommendations:

- The mitigation options under the Proposed Regulations be modified as follows to better reflect the life cycle and benefits of utility-scale solar installation:
 - Conservation Easements. DEQ should revise the “conservation easement” definition by removing the requirement that this mitigation be “perpetual” and specifying that that “conservation easements” should last for the life of the small renewable energy project requiring mitigation, with an option to extend the easement if the life of the facility is extended.

- In-lieu Fee. While we do not have a recommendation for a specific numerical discount to the \$3,000/acre in-lieu fee in the Proposed Regulations, we urge DEQ to consider adopting a lower number in the final regulations in recognition of the central role solar plays in the clean energy transition, the related land and environmental preservation benefits, and the impact of this fee on Virginia ratepayers.
- The Proposed Regulations be modified as follows to provide more substantial rewards and incentives to solar facilities that best utilize the following mitigation practices and agrivoltaics features:
 - First, we recommend eliminating the requirement to purchase a conservation easement or pay an in-lieu fee for projects that opt for the first mitigation option “to preserve prime agricultural soils,” referred to as “Option 1: no change in grade.”
 - We recommend that “active cropping including hayland,” in combination with any of the three soil mitigation options in 9 Va. Admin. Code § 15-60-60(E)(3), eliminate the conservation easement or in-lieu fee requirement.
 - We recommend that “managed grazing,” in combination with any of the three soil mitigation options in 9 Va. Admin. Code § 15-60-60(E)(3), eliminate the conservation easement or in-lieu fee requirement, or, in the alternative, receive a steeper discount than the proposed 25% reduction.
- The sections of the Proposed Regulations providing DEQ, solar developers, and localities with flexibility to develop alternative site-specific mitigation plans should be adopted in the final regulations.

II. Legal and Factual Background

In 2020, the VCEA accelerated the State’s clean energy transition.⁶ To end carbon dioxide emissions and reduce dependence on fossil fuels, a primary component of the VCEA is a requirement that the two investor-owned utilities—Dominion and APCo—build minimum amounts of solar or onshore wind energy by 2035.⁷ The VCEA sets a 16,100 MW target for Dominion and a 600 MW target for APCo, each with interim targets.⁸ The target for Dominion is broken down further, requiring that the 16,100 MWs “shall include 1,100 [MW] of solar generation...not to exceed three megawatts per individual project [,] 35 percent of such generating capacity...from solar facilities owned by persons other than the a utility...[and] [a]t least 200 [MW]...shall be placed on previously developed project sites.”⁹ In addition to its build targets, the VCEA requires each utility to procure and retire Renewable Energy Certificates (“RECs”) from renewable energy standard eligible sources (“RPS eligible”) in an amount equal to an increasing percentage target of total energy sold in the previous year. Beginning in 2025, at least 75% of those RECs must be generated by RPS eligible resources, including solar and onshore wind resources located in the Commonwealth.¹⁰

In addition to the ambitious renewable energy targets in the VCEA, Virginia Code contains numerous provisions reflecting the benefits and necessity of new clean energy development in the Commonwealth. For instance, the Commonwealth Clean Energy Policy reiterates the renewable energy targets, stating that it is the policy of the Commonwealth to “[d]evelop energy resources

⁶ 2020 Va. Acts Ch. 1193, codified at Va. Code §§ 10.1-1308, 56-576, 56-585.1, 56-585.1:4, 56-585.1:11, 56-585.5, and 56-585.6, 56-594, and 56-596.2.

⁷ Va. Code § 56-585.5(D).

⁸ *Id.*

⁹ *Id.* § 56-585.5(D)(2).

¹⁰ *Id.* § 56-585.5(C).

necessary to produce 30 percent of Virginia’s electricity from renewable energy sources by 2030 and 100 percent of Virginia’s electricity from carbon-free sources by 2040.”¹¹ The policy also states a goal to “[m]inimize the Commonwealth’s long-term exposure to volatility and increases in world energy prices by expanding the use of innovative clean energy technology within the Commonwealth,” reflecting the value of energy independence and the role new renewable and clean technologies will play in improving it.¹² Recent law also expanded the shared solar program size for Dominion and created a similar program for APCo, paving the way for development of shared solar facilities up to 5 MW.¹³

Against this backdrop, Virginia Code sets out two paths for solar developers to obtain state approval to construct utility-scale solar facilities. The first is to apply to the Commission for a certificate of public convenience and necessity (“CPCN”).¹⁴ The standards guiding these proceedings apply to all types of electrical generating facilities and require the Commission to determine the facility “will have no material adverse effect” on the reliability of electrical service and not be otherwise “contrary to the public interest.”¹⁵ The Commission must also “give consideration to the effect of th[e] facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact.”¹⁶ To evaluate environmental impact, the Commission must “receive and give consideration to all reports that relate to the proposed facility” that were prepared by other state agencies focused on environmental protection and consider local comprehensive plans if requested by localities.¹⁷ In addition, as part

¹¹ *Id.* § 45.2-1706.1(A)(1), (2).

¹² *Id.* § 45.2-1706.1(C)(7).

¹³ *Id.* §§ 56-594.3, 56-594.4.

¹⁴ *Id.* § 56-265.2(B).

¹⁵ *Id.* §§ 56-265.2(B), 56-580(D).

¹⁶ *Id.* § 56-46.1(A).

¹⁷ *Id.*

of this evaluation, the Commission is directed to consider the “effect of the proposed facility on economic development within the Commonwealth,” including the economic and job creation objectives of the Commonwealth Clean Energy Policy (which encompasses the above-cited energy independence goal) and improvements in service reliability.¹⁸ The code singles out “small renewable projects,” which includes solar facilities not exceeding 150 MW,¹⁹ as “in the public interest” and directs the Commission, “in determining whether to approve such project, [to] liberally construe the provisions of this title.”²⁰ CPCN proceedings must be completed within nine months following an application’s submission.²¹

“Small renewable energy projects” have the option to opt-out of Commission review entirely and instead obtain a “Permit-by-Rule” from the DEQ.²² This is the second path available to solar developers.²³ Relevant legislation directs the DEQ to establish through regulation Permit-by-Rule requirements when “necessary for the construction and operation of small renewable energy projects, including conditions and standards necessary to protect the Commonwealth’s natural resources.”²⁴ To this end, the General Assembly established a number of base requirements, including that developers may not obtain Permits-by-Rule without providing certification from the locality that the project complies with local land use ordinances, assurance that the project has applied for or obtained all necessary environmental permitting, and a detailed site plan with project location maps.²⁵ In addition, applicants must hold a public meeting “in a place proximate to the

¹⁸ *Id.*

¹⁹ *Id.* § 10.1-1197.5.

²⁰ *Id.* § 56-580(D).

²¹ *Id.*

²² *Id.* §§ 10.1-1197.6(I), 10.1-1197.8

²³ In contrast, regulated utilities may only seek approval pursuant to Title 56. *Id.* § 10.1-1197.6(H).

²⁴ *Id.* § 10.1-1197.6(A).

²⁵ *Id.* § 10.1-1197.6(B).

location of the proposed project” and prepare a report summarizing the issues raised at the meeting for DEQ, which is followed by a 30-day public review and comment period.²⁶ Relevant to the Proposed Regulations, applicants must also provide “an analysis of the beneficial and adverse impacts of the proposed project on natural resources.”²⁷ If the DEQ determines that “significant adverse impacts to wildlife, historic resources, prime agricultural soils, or forest lands are likely,” the applicant must submit a mitigation plan “to avoid, minimize, or otherwise mitigate such impacts” with a 45-day public comment period.²⁸ The Code requires the DEQ to “promptly” notify applicants if they have met the requirements and specify deficiencies if they have not.²⁹ Under the existing implementing regulations and the Proposed Regulations, the DEQ must provide the applicant with a determination within 90 days.³⁰

In 2022, House Bill 206 built on this mitigation requirement, deeming all projects to automatically have a “significant adverse impact” if they “disturb more than 10 acres of prime agricultural soils or 50 acres of contiguous forest lands, or if it would disturb forest lands enrolled in a program for forestry preservation.”³¹ House Bill 206 also established the outer bounds for regulations concerning required “mitigation plans” triggered by “significant adverse impacts” to prime agricultural soils and forest lands. In developing regulations, DEQ (in consultation with other agencies and stakeholders) was directed to consider “the cost of mitigation relative to the project cost, including the costs of proposed mitigation to rate payers,” “payment of in-lieu funds for mitigation,” “onsite minimization of impacts,” “the impacts on the local agricultural or forestry

²⁶ *Id.*

²⁷ *Id.* § 10.1-1197.6(B)(7).

²⁸ Va. Code § 10.1-1197.6(B)(8).

²⁹ *Id.* § 10.1-1197.7(A).

³⁰ 9 Va. Admin. Code § 15-60-30 (B) (existing); 9 Va. Admin. Code § 15-60-30(C) (proposed).

³¹ 2022 Va. Acts Ch. 288, Enactment Clause 1, codified at Va. Code § 10.1-1197.6 (B)(7).

economy when such soils or lands are displaced,” and the “loss of ecosystem benefits.”³² The legislation further directed that “criteria” for mitigation plans include only “*reasonable* actions to be taken by the applicant to avoid, minimize, or otherwise mitigate any such impacts to prime agricultural soils or forest lands.”³³

Subsequently, DEQ convened two separate advisory panels to assist with developing the amended regulations pursuant to House Bill 206. The panels met over five meetings in 2023 and nine meetings in 2024.³⁴ In the course of these meetings, the group adopted a conservation approach to mitigation, concluding that “[s]ignificant adverse impacts to prime agricultural soils, contiguous forest lands, and land in a forestry preservation program will require conservation of similar lands off-site. Conservation may include easements on private lands preventing conversion of prime agricultural soils and contiguous forest lands to other land uses.”³⁵ Consistent with the directives in House Bill 206, the group also discussed an in-lieu fee alternative,³⁶ resulting in a framework in which applicants posing significant adverse impacts to prime agricultural soils or forest lands have two mitigation options under the Permit-by-Rule approval process.³⁷

Under the conservation easement alternative, an applicant must provide mitigation by a conservation easement(s) for lands containing the same features as the disturbed acreage, either prime agricultural soils or forest lands.³⁸ Certain “mitigation options” that further mitigate or avoid

³² 2022 Va. Acts Ch. 288, Enactment Clause 2.

³³ *Id.* (emphasis added).

³⁴ See *HB206 Small Renewable Energy Projects Impact on Natural Resources*, Va. Dep’t of Env’t Quality, <https://www.deq.virginia.gov/our-programs/air/renewable-energy/hb-206-renewable-energy-natural-resources> (last visited Dec. 3, 2024).

³⁵ *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 1*, Va. Dep’t of Env’t Quality (June 23, 2023) at 9, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38170\Minutes_DEQ_38170_v1.pdf.

³⁶ *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 2*, Va. Dep’t of Env’t Quality (July 25, 2023) at 12-13, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38274\Minutes_DEQ_38274_v1.pdf.

³⁷ 9 Va. Admin. Code §§ 15-60-60(D)-(H) (proposed).

³⁸ *Id.* § 15-60-60(D)-(G) (proposed).

adverse impacts to either land category reduce the required size of a conservation easement by proportions set out in the regulations.³⁹ Under the in-lieu fee alternative, the applicant may instead pay an in-lieu fee in an amount equal to “the predicted cost of a perpetual easement necessary to protect the required acreage of land.”⁴⁰ As with the conservation easement option, the “required acreage of land” is determined by the mitigation ratio, or “the ratio of the area conserved to the area disturbed.”⁴¹ The various mitigation options are designed to incentivize solar developers to implement best practices that reduce or avoid impacts to prime agricultural soils and forest lands and maintain agricultural practices at the installations.⁴²

The DEQ submitted the Proposed Regulations to the Virginia Register of Regulations on September 17, 2024, published the Proposed Regulations on October 7, 2024, and invited Public Comments by December 6, 2024.⁴³ DEQ held a public hearing on the Proposed Regulations on November 19, 2024.⁴⁴

III. Comments

A. The mitigation alternatives under the Proposed Regulations omit consideration of significant environmental and economic benefits of solar, which is inconsistent with Virginia’s clean energy goals.

Neither mitigation route under the Proposed Regulations accounts for the environmental and economic benefits of solar, which may result in unfair and unnecessarily burdensome requirements for solar developers. While mitigation through the conservation easement option

³⁹ *Id.* § 15-60-60(E)-(F) (proposed).

⁴⁰ *Id.* § 15-60-60(H) (proposed).

⁴¹ *Id.* § 15-60-10 (proposed).

⁴² *See, e.g., id.* § 15-60-60 (E)(3)-(4).

⁴³ 41 Va. Reg. Regs. 489 (Oct. 7, 2024).

⁴⁴ *Public hearing on amendments to the Small Solar Renewable Energy Projects Permit Regulation (9 VAC 15-60) to comport with the requirements of Chapter 688 of the 2022 Acts of Assembly*, Va. Dep’t of Env’tl Quality, <https://www.townhall.virginia.gov/L/viewmeeting.cfm?meetingid=40524> (last visited on Dec. 3, 2024).

ignores the benefits of solar land use compared to more permanent, disruptive land uses, the in-lieu fee alternative fails to reflect the environmental benefits of investing in solar energy to drive a clean energy transition. Singling solar out in a manner that reflects only negative aspects of the land use—with no regard for the positive—is also at odds with Virginia’s longstanding clean energy policy.

1. The conservation easement mitigation option ignores the Virginia Code’s decommissioning requirements and fails to reflect that solar land use, unlike other types of development, does not require land to be permanently altered.

Under the conservation easement alternative, an applicant must secure a conservation easement for lands containing the same features as the disturbed acreage, either prime agricultural soils or forest lands. The Proposed Regulations define “conservation easement” as a “perpetual easement” that meets additional requirements,⁴⁵ including that the easement occur within one year of the issuance of the Permit-by-Rule, contain a third party right of enforcement, and not already be subject to a deed restricting development unless that easement is restricted for the purpose of mitigating solar development.⁴⁶ Collectively, these requirements raise two concerns.

First, the requirement that conservation easements be “perpetual” ignores the life cycle of utility-scale solar. All solar facilities subject to these regulations have useful lives of 25 to 30 years, after which they are subject to stringent decommissioning requirements that must also meet local requirements. Specifically, Virginia Code requires solar developers to enter into a written agreement with localities “to decommission solar energy equipment, facilities, or devices” subject to specific terms including that the developer “provides financial assurance of such performance to the locality in the form of certified funds, cash escrow, bond, letter of credit, or parent

⁴⁵ 9 Va. Code Admin § 15-60-10 (proposed).

⁴⁶ *Id.* § 15-60-60(G) (proposed).

guarantee.”⁴⁷ The section defines “decommission” as including the “reasonable restoration of the real property upon which such solar equipment, facilities, or devices are located, including (i) soil stabilization and (ii) revegetation of the ground cover of the real property disturbed by the installation of such equipment, facilities, or devices.”⁴⁸ In other words, Virginia Code requires that the land be substantially “restored,” in which case it will be available for previous or different land uses once the installation is decommissioned.⁴⁹ Nevertheless, the regulations would require perpetual mitigation for a solar facility’s 25- to 30-year impact.

The Proposed Regulations’ requirement that conservation easements be perpetual is not necessarily surprising. More pervasive, historical land uses such as housing developments or road construction carry permanent land use impacts, so it makes sense that familiar land preservation tools—like conservation easements—would be permanent by default. In a departure from these more widespread land uses, however, solar land development would violate Virginia’s decommissioning law if they dramatically altered the land in perpetuity. The Proposed Regulations should, therefore, be updated to reflect this unique benefit of solar land use by removing the requirement that a conservation easement be “perpetual.” We recommend instead that “conservation easements” be defined as lasting for the life of the project requiring mitigation with an option to extend the easement if the life of the facility is extended, such as through repaneling.⁵⁰

⁴⁷ Va. Code § 15.2-2241.2(B).

⁴⁸ *Id.* § 15.2-2241.2(A).

⁴⁹ As discussed in greater detail below, further incentivizing best practices at solar facilities will also support more fulsome restoration of agricultural land at the end of solar facilities’ lives. *See* W. Lee Daniels et al., *Soil-Site Management Protocols & Best Management Practices (BMPs) for Utility Scale Solar Site (USS) Development and Management in Virginia*, Va. Tech (May 12, 2024) at 38, <https://landrehab.org/wp-content/uploads/2024/05/USS-White-Paper-5-12-24.pdf> (identifying best decommissioning practices include “[a]ppropriate soil remediation practices [] during the *active installation and stabilization phase* and acceptable management practices [] over the site lifetime that allow for vigorous ($\geq 75\%$ living cover) perennial herbaceous vegetation to persist for the lifetime of the project.”).

⁵⁰ This more nuanced approach is especially important if most solar developers do not opt to re-new facilities. During one regulatory advisory panel (“RAP”) meeting, participant Jeff Hammond (AEE), noted that “it is difficult for a solar

The second feature of the conservation easement mitigation option that stands out is the extensive easement requirement.⁵¹ While it may appear that solar developers, who are well-versed in securing land tracts for solar installations, would have the expertise to secure an easement, they are not in the business of doing so.⁵² Their expertise and focus centers on cost-effectively and efficiently building solar so they can sell electricity to the grid and generate profits. Indeed, during the advisory process, one solar industry representative observed that “[l]easing land for a solar project is incredibly complex. Adding the extra step of locating conservation easements to fulfil an off-site mitigation requirement could lengthen the solar process so much that it severely stifles solar power development in Virginia.”⁵³ This reality, and the fact that solar developer’s ability to remain in business is directly linked to their ability to sell electricity, means that solar developers will likely opt for the in-lieu fee alternative in the interest of expediency and efficiency. Industry representatives confirmed this likelihood in advisory panel meetings.⁵⁴ While the Agency was initially hesitant to establish an in-lieu fee alternative,⁵⁵ we appreciate that the Proposed

developer to extend an existing lease. In the second round of negotiations, landowners often take advantage of developers trying to avoid commissioning and decommissioning sites and seek higher rent payments.” *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 2*, Va. Dep’t of Env’tl Quality (July 25, 2023) at 8, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38274\Minutes_DEQ_38274_v1.pdf.

⁵¹ RAP participant Jeff Hammond (AEE) observed that “[t]he qualifying requirements proposed by DEQ make the off-site mitigation requirement difficult to comply with.” *Id.* at 12.

⁵² RAP participant David Murray (ACPA) also raised the possibility that requiring mitigation through conservation easement only could “drive demand for conservation easements through the roof. Land holding organizations could take advantage of this increased demand by ‘selling’ existing conservation easements as credits to solar power companies seeking to satisfy their off-site mitigation requirement for their own economic gain.” *Id.* at 8.

⁵³ *Id.* at 6 (RAP participant Jeff Hammond, AEE). RAP participant Kyle Shreve (Virginia Agribusiness Council) also noted: “[a]sking a developer to locate plots of land for off-site mitigation on their own is cumbersome enough to seriously delay a solar project.” *Id.* at 12.

⁵⁴ *See id.* at 12-13.

⁵⁵ *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 1*, Va. Dep’t of Env’tl Quality (June 23, 2023) at 10, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38170\Minutes_DEQ_38170_v1.pdf.

Regulations provide this flexibility to address these concerns. This approach is also consistent with the legislative directive.⁵⁶

2. *The in-lieu fee alternative focuses too narrowly on solar land use without regard to the environmental benefits of solar and the role solar will play in driving Virginia's clean energy transition.*

As drafted, however, the in-lieu alternative also does not account for the environmental attributes of solar or reflect the resource's central role in Virginia's clean energy policy. Under this mitigation option, an applicant must pay an amount equal to "the predicted costs of a perpetual easement," deemed to be "the greater of" \$3,000 per acre of disturbed land or "the difference between the most recent assessed use value per acre [of the disturbed land] and the full assessed value per acre of the land affected by the solar project prior to re-assessment as a solar use."⁵⁷ Like the conservation easement option, this route seems to focus solely on land preservation without balancing the benefits of solar development against its land use impacts. First, the cost is tied to a "perpetual easement," which, as explained above, is in tension with solar decommissioning requirements. Second, the \$3,000/acre amount appears to be based on the Economic Impact Analysis, from the Virginia Department of Planning and Budget, which estimates that the median appraised value of land preservation easements equals \$2,973.⁵⁸ While this value may appear appropriate based on the chosen mitigation framework and can be reduced through various

⁵⁶ See 2022 Va. Acts Ch. 288, Enactment Clause 2 ("In developing regulations regarding plans to mitigate any significant impacts to prime agricultural soils or forest lands, the advisory panel shall consider, but not be limited to, the following factors in determining appropriate mitigation techniques or criteria to be included in an applicant's mitigation plan: (i) the mitigation techniques to avoid, minimize, or otherwise mitigate any such impacts; (ii) the cost of mitigation relative to the project cost, including the costs of proposed mitigation to rate payers; (iii) onsite minimization of impacts; (iv) *payment of in-lieu fee funds for mitigation*; (v) the impact on the local agricultural or forestry economy when such soils or lands are displaced; (vi) the loss of ecosystem benefits; (vii) noncompliance with Virginia's Watershed Implementation Plan III goals on the Chesapeake Bay TMDL; and (viii) noncompliance with other water quality criteria and standards") (emphasis added).

⁵⁷ 9 Va. Code Admin § 15-60-60(H) (proposed).

⁵⁸ *Economic Impact Analysis*, Va. Dep't of Planning & Budget (Jul. 29, 2024) at 17, https://www.townhall.virginia.gov/L/GetFile.cfm?File=53\6246\10341\EIA_DEQ_10341_v3.pdf.

mitigation efforts, adopting a value equal to generic conservation easements ignores the environmental benefits of solar *to land preservation*.

In particular, this \$3,000 value does not reflect that the rapid deployment of clean energy—with solar as the lynchpin—is necessary to not only improve the air and water quality in the state, but also slow the quickening, increasingly harmful effects of climate change from fossil-fuel generating resources. As we have seen in recent months, disasters like Helene, which are occurring with greater frequency and intensity,⁵⁹ pose a greater threat to Virginia’s most valuable agricultural lands. A Virginia Tech analysis recently estimated that “the damage from Hurricane Helene to Virginia’s agriculture, forestry, and related industries will fall between \$416 million and \$630 million.”⁶⁰ Taking steps to slow warming temperatures is also necessary to prevent indiscriminate land impacts from forest fires; in March of 2024 alone, over 100 fires burned 7,500 acres throughout Virginia, including in the Shenandoah National Park.⁶¹ Ultimately, this year’s spring fire season “burned nearly 20,000 acres, the most burned during a spring fire season in the last 30

⁵⁹ See *Climate Change Indicators: Weather and Climate*, U.S. Env’tl. Prot. Agency, <https://www.epa.gov/climate-indicators/weather-climate> (noting that “[s]cientific studies indicate extreme weather events such as heat waves and large storms are likely to become more frequent or more intense with human-induced climate change,” which can lead to “increase[d] illnesses and deaths, especially among vulnerable populations, and damage some crops.”) (last visited Dec. 6, 2024).

⁶⁰ Marya Barlow, *Long-term impact of Hurricane Helene on Virginia agriculture could reach \$630 million, Virginia Tech analysis shows*, Virginia Tech News (Nov. 11, 2024), <https://news.vt.edu/articles/2024/11/cals-hurricane-economic-analysis.html>.

⁶¹ Charlie Paullin, *Fires blaze across 7,500 acres in various Virginia regions*, Va. Mercury (Mar. 21, 2024), [https://www.vaclimate.gmu.edu/blog/wildfire-risk-virginia](https://virginiamercury.com/2024/03/21/fires-blaze-across-7500-acres-in-various-virginia-regions/#:~:text=By%3A%20Charlie%20Paullin%20%2D%20March%2021%2C%202024%204%3A24%20pm&text=Over%20100%20fires%20blazed%20in,Central%2C%20Southwest%20and%20Northern%20Virginia; Sophia Whitaker and Dr. Jim Kinter, Addressing the increasing wildfire risk in Virginia, George Mason University, Virginia Climate Center (2024) (“In a typical year, about 9,500 acres burn in Virginia, and we have already reached 80% of the annual total in the first quarter of 2024), <a href=) (“Though our region is predisposed to wildfires, the effects of a warming planet lead to changes in weather patterns and environmental conditions that exacerbate the risk. Virginia’s climate is becoming warmer and wilder – that is, more variable.”)

years,” and more than nine times the 2023 spring season.⁶² In the face of these escalating climate risks, solar is by no means the only, or even the largest, threat these valuable lands face. And, in fact, for some of the most disastrous, permanent threats, solar—including scalable and cost-effective utility-scale solar—is a key part of the solution.

3. *Adopting final regulations that require solar developers to bear a disproportionate portion of the state’s land preservation efforts is not reflective of solar land consumption or Virginia clean energy policy.*

Finally, it is worth observing that the Proposed Regulations’ mitigation requirements—under either the conservation easement or in-lieu fee alternatives—may result in steeper hurdles to build solar installations than other more impactful and permanent land uses. For example, housing developments forever change the character and make up of land. Once built, they also drive increases in traffic, emissions, utilization of city and county resources, and additional types of development. Yet, if a housing development sought to site on prime agricultural lands, it would not be required to acquire or fund proportional, perpetual conservation easements. Given these competing land uses, solar developers should not be singled out to bear a disproportionate portion of the state’s land preservation efforts. Doing so would be inconsistent with Virginia policy requiring utilities to meet ambitious renewable energy targets⁶³ and declaring solar facilities up to 150MW to be in the “public interest.”⁶⁴

Placing these heightened burdens on solar development also misconstrues the actual scale of solar land consumption. Following the passage of the VCEA in 2020, The Nature Conservancy calculated available acreage in Virginia that met several criteria well-suited for utility-scale solar,

⁶² *Virginia Department of Forestry Protects More than 1,000 Home and Structures this Spring Fire Season*, Va. Dep’t of Forestry (May 23, 2024), https://dof.virginia.gov/wp-content/uploads/nr_2024-05-23_DOE-Protects-More-Than-1000-Homes-and-Structures-This-Spring-Fire-Season.pdf.

⁶³ See Va. Code § 56-585.5(D).

⁶⁴ *Id.* § 56-580(D).

including that the land was relatively flat, within three miles of transmission, outside of developed areas and open water, and had contiguous availability between 10-50 acres or above 100 acres.⁶⁵ Of the 8.76 million acres of land that met these criteria, the Nature Conservancy then determined that 25% conflicted with conservation goals, reducing the total solar suitable land to 6.48 million acres. Under the conservative assumption that 1MW of solar requires ten acres, meeting the VCEA targets for Dominion with utility-scale solar would require just 161,000—or 2.5%—of those — acres.⁶⁶

Conversely, in developing areas, competing land uses pose a greater threat to available land, especially given Virginia’s growing population. The Virginia Department of Conservation and Recreation estimates that between 2001 and 2016, the population of Virginia increased by almost 17%, from 7.19 million to 8.41 million, during which the amount of developed land area increased by almost 7%, from 2.36 million acres to 2.52 million acres.⁶⁷ Zeroing in on a specific solar development adjacent to housing development also helps to illustrate the scale of the impacts. For example, below we have provided a satellite image of the 70MW Bedford Solar facility in the City of Chesapeake; the solar facility is outlined in blue, while adjacent housing developments are outlined in red.⁶⁸

⁶⁵ *Solar Siting in Virginia*, The Nature Conservancy, <https://conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/virginia/Pages/solar-siting-va.aspx> (last visited Dec. 3, 2024).

⁶⁶ *Id.* Relatedly, we note our strong support for the heightened mitigation ratios for impacts to C1 and C2 forest cores. 9 Va. Code Admin § 15-60-60(D) (proposed). Given the extensive acreage available in Virginia, there is no reason to impact these forest cores and we think it is appropriate to disincentivize development of any kind in these areas.

⁶⁷ *Virginia Conservation Vision*, Va. Dep’t of Conservation and Recreation, <https://www.dcr.virginia.gov/natural-heritage/vaconvision> (last visited Dec. 3, 2024); see also Shonel Sen, *New Virginia Population Projections for 2030-2050*, Univ. of Va: Weldon Cooper Ctr. for Pub. Service (Sep. 9, 2023), <https://www.coopercenter.org/research/new-virginia-population-projections-2030-2050> (forecasting that the Virginia population will continue growing and reach 9.1 million by 2030).

⁶⁸ This image also illustrates the scale of a 200-acre golf course in between the housing development and solar installation.



We appreciate that solar also raises concerns about loss of agricultural land in regions where other types of development are not as prevalent. Studies evaluating this concern, however, suggest it is overstated as well. For example, the North Carolina Sustainable Energy Association (“NCSEA”) and NC Department of Agriculture and Consumer Services published a Solar Land Use and Agriculture analysis using 2022 data that found that just 0.12% of the total land area of the state and 0.28%⁶⁹ of agricultural land⁷⁰ had been repurposed for utility-scale solar development. In contrast, the study also found that “other forms of redevelopment, classified as either Developed, Open Space (i.e. single-family housing, golf courses, parks) or Developed, Low

⁶⁹ Daniel Brookshire et al., *North Carolina Solar Land Use and Agriculture*, N.C. Sustainable Energy Ass’n (2022) at 4, https://energync.org/wp-content/uploads/2022/06/2022_Solar_Agv2.pdf.

⁷⁰ The “agricultural land” in this analysis includes “cultivated crops, pasture/hay, and evergreen forest categories.” *Id.* at 12.

Intensity (i.e. single-family housing) [] each comprise 7.18% and 3.42% of agricultural land respectively.”⁷¹

While not specific to Virginia, these findings illustrate the relative scale of solar land consumption. They are also striking given that North Carolina, a state similar in geographic size to Virginia, had almost *twice* as much solar as Virginia at the time of the analysis in 2022. Specifically, North Carolina was ranked fourth in the country for total installed solar capacity with 7,811 MW according to the Solar Energy Industries Association (“SEIA”), as compared to Virginia, which was ranked ninth with 3,761 MW online.⁷² Of the 7,811 MW, NCSEA further estimated that there were 703 utility-scale systems (greater than 1MW) totaling 5,786 MW.⁷³ The scale of solar impacts to agricultural land in North Carolina is consistent with national findings; according to the U.S. Department of Agriculture “[t]he amount of rural land directly affected by wind turbines and solar farms, [] is small compared with the amount of farmland in the United States: 424,000 acres in 2020 compared with 897 million total acres used for farmland, less than 0.05 %.”⁷⁴ And—in contrast to competing development—even when utility-scale solar is sited on agricultural land, it can be constructed with features, such as managed grazing, that maintain the

⁷¹ *Id.* at 4.

⁷² *Id.* at 7. In SEIA’s 2024 update, North Carolina’s solar capacity remains significantly greater than Virginia’s; North Carolina has 9,732 MW and Virginia is ranked ninth with 6,009 MW. *Solar State by State*, Solar Energy Indus. Ass’n, <https://seia.org/solar-state-by-state/> (last visited Dec. 4, 2024).

⁷³ Brookshire et al., *supra* note 69, at 3. More recently, the Carolina Clean Energy Business Association conducted a similar study for South Carolina, estimating that building 11,047 MW of utility-scale solar by 2035 (an amount found to be cost-effective in the utilities planning dockets) would use a maximum of 1.4% of agricultural land (conservatively assuming all solar was placed on such land and not brownfield or silviculture land) and 0.2% of all acreage in South Carolina. The report also estimates that building this amount of solar by 2035 would drive a cumulative economic benefit to the state of South Carolina of approximately \$19.0 billion between 2024 and 2035. Joseph C. Von Nessen, *The Economic Impact of the Solar Industry in South Carolina*, Carolinas Clean Energy Business Ass’n (Nov. 2024), at 4, <https://carolinasceba.com/wp-content/uploads/2024/12/The-Economic-Impact-of-the-Solar-Industry-in-South-Carolina-November-2024.pdf>.

⁷⁴ Karen Maguire et al., *Agricultural Land Near Solar and Wind Projects Usually Remained in Agriculture After Development*, U.S. Dep’t of Agric. (Sep. 12, 2024), <https://www.ers.usda.gov/amber-waves/2024/september/agricultural-land-near-solar-and-wind-projects-usually-remained-in-agriculture-after-development/>.

agricultural character of the property.⁷⁵ As discussed in greater detail below, we recommend expanding the Proposed Regulation’s mitigation options incentivizing those features at solar installations.

4. *Setting the in-lieu fee too high will increase costs to Virginia ratepayers.*

Finally, it is important to acknowledge that any in-lieu fee imposed by these Proposed Regulations will ultimately be passed on to Virginia ratepayers. Because regulated utilities cannot participate in the Permit-by-Rule program,⁷⁶ these fees will be placed on third party developers. In turn, third party developers will incorporate these fees into the rates they negotiate with utilities for power purchase agreements (“PPAs”), which means those fees will be borne by the utilities’ ratepayers.

Virginia’s ratepayers have seen alarming increases to their rates over the past two decades. For Dominion customers, monthly bills have increased by \$43.15 since 2007.⁷⁷ Things are even worse for APCo customers, whose monthly bills have increased by \$105.48 over the same time.⁷⁸ These recent trends, along with House Bill 206’s required consideration of cost impacts to ratepayers,⁷⁹ caution against the DEQ saddling Virginia ratepayers with such a significant, additional burden.

⁷⁵ See Brookshire et al., *supra* note 69, at 4 (“Regardless, for the small amount of agricultural land that solar PV does occupy, there are methods of system installation that can co-locate agricultural activities with solar PV, such as planting beneath raised solar PV panels and allowing for animals to graze in and around operating systems in a practice called agrivoltaics.”).

⁷⁶ Va. Code § 10.1-1197.6(H).

⁷⁷ *Status Report on the Implementation of the Virginia Electric Utility Regulation Act*, Va. State Corp. Comm’n (Nov. 1, 2024) at vi, <https://rga.lis.virginia.gov/Published/2024/RD717/PDF>.

⁷⁸ *Id.* at vii.

⁷⁹ 2022 Va. Acts Ch. 288, Enactment Clause 2 (directing consideration of “the cost of mitigation relative to the project cost, including the costs of proposed mitigation to rate payers.”).

In sum, we recommend that the Proposed Regulations be modified to better reflect the life cycle and benefits of utility-scale solar installations by making the following changes to the mitigation options:

- Conservation Easements. DEQ should revise the “conservation easement” definition by removing the requirement that this mitigation be “perpetual” and specifying that that “conservation easements” should last for the life of the small renewable energy project requiring mitigation, with an option to extend the easement if the life of the facility is extended.
- In-lieu Fee. While we do not have a recommendation for a specific numerical discount to the \$3,000/acre in-lieu fee in the Proposed Regulations, we urge DEQ to consider adopting a lower number in the final regulations in recognition of the central role solar plays in the clean energy transition, the related land and environmental preservation benefits, and the impact of this fee on Virginia ratepayers.

B. The high cost of the in-lieu fee alternative may undermine the objectives of House Bill 206 by driving facilities with the greatest land use to seek approval from the SCC as opposed to participating in the Permit-by-Rule mitigation framework.

The \$3,000/acre proposal may also have unintended consequences, driving the most impactful solar installations to seek approval from the SCC, rather than expend the costs to comply with the mitigation framework under the Proposed Regulations.

To illustrate this concern, consider the options available to solar developers under Virginia law. As explained above, a utility-scale solar developer may either obtain approval from the SCC through a CPCN proceeding *or* if the project falls below 150 MW, the solar developer may instead opt for Permit-by-Rule approval, under which the Proposed Regulations (if adopted) would require mitigation for any significant adverse impact to prime agricultural soils or forest lands.

Proceedings under the “CPCN Route” will almost certainly require the developer to retain outside counsel to assist with filing an application, preparing pre-filed testimony, and participating in a litigated docket, during which interested parties may intervene, which injects uncertainty into the process. This process may also last up to nine months,⁸⁰ assuming no appeal draws it out further.

Under the “Permit-by-Rule Route,” developers can avoid a litigated SCC proceeding, so long as they meet the DEQ’s relevant regulations including providing certification from the locality, assurance that the project has applied for or obtained all necessary environmental permitting, and a detailed site plan with project location maps and meeting public comment and meeting requirements.⁸¹ Under the existing and Proposed Regulations, DEQ will provide the applicant with an initial compliance determination within 90 days.⁸²

If a solar developer can *avoid* adverse impacts to prime agricultural solar and forest lands, these two options are relatively straightforward and the applicant will presumably opt for the more efficient Permit-by-Rule route, avoiding a litigated proceeding at the SCC. In this scenario, the applicant may still be required to mitigate impacts to wildlife and/or historic resources.

If, however, a solar project would “disturb more than 10 acres of prime agricultural soils” or “disturb more than 50 acres of contiguous forest lands, or [] forest lands enrolled in a program for forestry preservation,” the applicant’s options become more complex and, under the Proposed Regulations, increasingly costly, depending on the size of the disturbance and the size of the project. Before illustrating the various options, it is worth pausing to note that if solar developers can relatively easily avoid prime agricultural soils and forest lands, the Proposed Regulations may

⁸⁰ Va. Code § 56-580(D).

⁸¹ *Id.* § 10.1-1197.6(B), (I).

⁸² 9 Va. Admin. Code § 15-60-30 (B) (existing); 9 Va. Admin. Code 15-60-30(C) (proposed).

merely provide an extra deterrent to avoid those land types, and the repercussions of the mitigation options to the solar industry could be relatively minor. But if some level disturbance is *unavoidable* for a facility—which is likely the case for many projects, particularly in light of the scale of solar required for Virginia’s clean energy transition—these Proposed Regulations have the potential to dramatically alter the feasibility and cost of solar development within the Permit-by-Rule framework. In short, the degree to which the proposed regulations are avoidable or not strikes us as a vital, yet missing, piece of information underlying these regulations.

Setting that concern aside for the moment, though, and assuming prime agricultural soils and contiguous forest lands are *unavoidable* for most solar facilities, it is illustrative to consider three differently sized solar facilities and how the costs of the in-lieu fee may impact each facility’s path to operation.

In each of the following scenarios, assume that each MW(ac)⁸³ of a Solar Facility disturbs 5 acres⁸⁴ and costs roughly \$1 million to develop.⁸⁵

- **For a small solar facility of 3 MW**, at a total cost of \$3,000,000 that disturbs roughly 15 acres, the in-lieu fee may cost \$45,000 (15 x \$3,000), assuming the developer does not pursue a reduced mitigation ratio. In this scenario, a \$45,000 expense in the context of a \$3,000,000 investment, while not insignificant, is unlikely to cause the developer to opt out of the Permit-by-Rule route and instead seek approval through a CPCN proceeding—

⁸³ “Ac” refers to “Alternating current.”

⁸⁴ The Proposed Regulations require solar developers to secure conservation easement or pay an in-lieu fee in proportion to the projects “mitigation zone,” defined as the area within the site directly impacted by land-disturbing activity including construction and operation of the small solar energy project. As we understand this, this would implicate the portion of a solar development under panel, roughly 4-6 acres per megawatt. See Mark Bolinger & Greta Bolinger, *Land Requirements for Utility-Scale PV: An Empirical Update on Power and Energy Density*, U.S. Dep’t of Energy: Lawrence Berkeley Nat’l Lab. (2021) at 5-6 (estimating a range of 0.18- 0.28 MW(ac)/acre).

⁸⁵ See U.S. Solar Market Insight, Executive Summary, Wood Mackenzie & SEIA (Dec. 2024) at 15 (showing costs for utility-scale solar at roughly \$1.06-\$1.20 per watt), https://go.woodmac.com/l/131501/2024-12-03/33knpv/131501/17332534929ZLP4PN7/Executive_summary_US_SMI_Q4_2024.pdf.

especially assuming doing so would require retaining outside counsel for a proceeding that could last up to nine months.

- **For a medium solar facility of 50 MW**, at a total cost of \$50,000,000 that disturbs roughly 250 acres, the in-lieu fee may cost roughly \$750,000 (250 x \$3,000). The solar developer's preferred path at this scale is likely a toss-up. On the one hand, the \$750,000 fee relative to a \$50,000,000 investment may not be significant enough to drive the developer to a CPCN proceeding, especially if they achieve a reduced mitigation ratio, such as through preserving topsoil, which would reduce the fee to roughly \$187,400. On the other hand, the additional construction costs to achieve a reduced mitigation ratio will also be significant and that expense—combined with the remaining \$187,400—may make the CPCN route more attractive.
- **For a large solar facility of 150 MW**, at a total cost of \$150,000,000 that disturbs roughly 750 acres, the in-lieu fee may cost roughly \$2,250,000 (750 x \$3,000). Faced with such significant costs, the developer will almost certainly opt for the CPCN route and likely save money under this alternative, despite having to retain counsel in that proceeding. Even if we assume they could reduce the in-lieu fee by 25% by implementing a mitigation option such as managed grazing, the fee would still equal roughly \$1,687,500, at which point it would *still* not make sense to obtain approval through the Permit-by-Rule route and implement that mitigation option.

The relationship between the size of facilities and potential costs illustrates how the Proposed Regulations may in fact undermine a critical goal of House Bill 206: to shape development of future solar facilities. In order for the Permit-by-Rule regulations to achieve the greatest impact by deterring solar development on valuable lands and incentivizing mitigation

practices where development on those lands cannot be avoided, solar developers must opt first to seek approval under the Permit-by-Rule route, as opposed to the CPCN route. Under current circumstances, as explained at the outset, an applicant’s preference for the more efficient Permit-by-Rule route is not in question. But the potential costs in the Proposed Regulations may make the alternative CPCN route more attractive. And when solar developers opt to seek approval at the SCC, they will no longer be subject to the mitigation incentives and framework in the Proposed Regulations.

In other words, the Proposed Regulations will not improve the quality of solar developments—and will not fulfill the objectives of House Bill 206—if the costs drive applicants out of this process entirely. What is more, the likelihood of the Proposed Regulations’ costs driving developers to the SCC appears to be greatest *with the largest facilities*. These are the same facilities with the potential for the *greatest* environmental impacts and where incentivizing mitigation efforts and best practices is most imperative.

Of course, in CPCN proceedings, the SCC must consider impacts “on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact” and consider reports prepared by agencies including DEQ. The SCC would also have the authority to require mitigation measures as a condition of approval.⁸⁶ But there are no requirements that CPCN approvals include land preservation requirements. And the SCC also has a number of enumerated, competing objectives to balance in CPCN determinations, including impacts to the state economy and improvements in service reliability.⁸⁷ These considerations may weigh heavily

⁸⁶ Va. Code. § 56-46.1 A.

⁸⁷ *Id.*

in favor of approval as load growth increases⁸⁸ and VCEA targets approach. It is, therefore, reasonable under current law to expect that the SCC may not be focused on mitigating or offsetting impacts to prime agricultural soils or forest lands to the same extent as DEQ is under the Proposed Regulations. In fact, statutory construction principles indicate it may be *ultra vires* for the Commission to apply the same mitigation requirements in a CPCN proceeding that the General Assembly prescribed only to the Permit-By-Rule process.⁸⁹ In short, while facilities that opt for the CPCN route will not escape review or an obligation to mitigate environmental impacts, they will also be subject to a review framework with competing objectives, as opposed to the Proposed Regulations' carefully tailored efforts to mitigate land use impacts.

Finally, the possibility of driving the largest “small renewable energy projects” to the CPCN route appears to undermine the General Assembly’s relatively recent expansion of the “small renewable energy projects” definition to include projects up to 150 MW as opposed to 100 MW.⁹⁰ This amendment reflects a clear intent that the Permit-by-Rule path to approval be available to large projects from 100 MW to 150 MW. As such, DEQ should be wary of adopting regulations most likely to drive those same projects away from the Permit-by-Rule path—effectively undoing this recent legislative effort.

⁸⁸ See *Status Report on the Implementation of the Virginia Electric Utility Regulation Act*, Va. State Corp. Comm’n (Nov. 1, 2024) at 36, <https://rga.lis.virginia.gov/Published/2024/RD717/PDF> (noting that “the addition of [] large-use customers (which include data centers) could represent an unprecedented amount of new load for electric utilities. Indeed, the Commission noted that this new load could surpass a provider’s current peak load requirements for its entire system, creating issues and risks for electric utilities and their customers that have not heretofore been encountered. Accordingly, the Commission provided notice that it will convene in this proceeding a Commissioner-led technical conference – on Monday, December 16, 2024 – regarding the fast-emerging issues related to servicing this new retail electric load.”).

⁸⁹ See *Vaughn, Inc. v. Beck*, 262 Va. 673, 679 (2001) (noting that courts “may not construe the statute’s plain language in a manner that amounts to holding that the General Assembly meant to add a requirement to the statute that it did not actually express.”).

⁹⁰ 2017 Va. Acts Ch. 368.

C. The framework incentivizing best practices for solar installation is appropriate but should go further to reward high quality projects that avoid impacts on prime agricultural soils.

We appreciate the Proposed Regulations’ mitigation options and strongly support efforts to incentivize practices at solar installations that maintain the agricultural character of solar installations and minimize sedimentation and erosion impacts. There are, however, several “mitigation options” in the Proposed Regulations that would effectively avoid—as opposed to merely reduce—adverse impacts to the soil and agricultural character of the land. In these instances, we recommend expanding the incentives for solar developers to employ best practices, consistent with the objectives of House Bill 206.

First, we recommend eliminating the requirement to purchase a conservation easement or pay an in-lieu fee for projects that opt for the first mitigation option “to preserve prime agricultural soils,” referred to in the Proposed Regulations as “Option 1: no change in grade.”⁹¹ As drafted, the proposed regulations significantly reduce the “mitigation ratio” for these projects to 1:10. This significant discount is directionally correct for projects that involve “no change in grade or topsoil removal, no trenching, maintenance of >75% living vegetative cover, and decompaction to >6 [inches] after decommissioning.”⁹² Virginia Tech Professor W. Lee Daniels identified each of these measures as a “best practice” to avoid significant near and long term impacts at utility-scale solar sites. In particular, his whitepaper highlights topsoil removal and grading as the “most immediate and obvious impact[s]” of solar development and highlights “[r]etention of even 60-70% vegetation, plant litter or mulch cover [as] drastically limit[ing] sediment detachment and local transport while enhancing infiltration.”⁹³ He also observes “moderate surface soil compaction (<

⁹¹ 9 Va. Admin. Code § 15-60-60(E)(3) (proposed).

⁹² *Id.*

⁹³ W. Lee Daniels et al., *supra* note 49, at 11-12.

6” deep) can be rapidly remediated via conventional tillage practices,” as opposed to “significant root-limiting compaction, particularly when it occurs deeper than 6 [inches],” which will require longer term remediation.⁹⁴ In short, Professor Daniels’s analysis appears to confirm that Option 1 would avoid consequential, lasting, or “significant” impacts.

A developer that undertakes these mitigation efforts—and avoids “significant adverse impacts” to prime agricultural soils—could, nevertheless, face a meaningful in-lieu fee requirement under the Proposed Regulations. For example, the large (150 MW) solar facility, discussed above, would still be required to pay an in-lieu fee of \$225,000 under the Proposed Regulations. But in this scenario, once adverse impacts to the land are avoided, it is no longer clear what “significant impact” the reduced conservation easement or in-lieu fee would be offsetting or mitigating. Removing the fee when the impacts are substantially avoided would also be consistent with House Bill 206’s directive to develop criteria for applicants to “*minimize* or otherwise *mitigate* any significant adverse impacts to prime agricultural soils or forest lands” in instances where “avoidance” of “such impacts” at the site in question is “not reasonable.”⁹⁵ The final regulations should reward solar facilities that achieve “avoidance” of significant impacts. In addition to better reflecting this statutory framework, eliminating the mitigation requirement for Option 1 will also provide an additional incentive for solar developers to use the best practices identified by Professor Daniels, thereby improving the potential benefits of these regulations.

To the same end, we recommend eliminating mitigation requirements for projects that employ practices that maintain the agricultural character of the land, which will provide an even greater incentive for facilities to better reflect the aesthetic of rural localities. Eliminating these requirements will also make it more economic for existing farms to add solar to its current

⁹⁴ *Id.* at 22.

⁹⁵ 2022 Va. Acts Ch. 288, Enactment Clause 2.

operations. As drafted, 9 Va. Admin. Code § 15-60-60(E)(4) “decrease[s] the required area of off-site conservation easement by 25%” if any of the following practices are employed in combination with mitigation options to preserve onsite soils: “managed grazing; active cropping, including hayland; or establishment and maintenance of pollinator smart habitat/vegetation.” While the proposed discount is somewhat helpful, the regulations should go to greater lengths to incentivize development that incorporates “active cropping including hayland” or “managed grazing.”

The Proposed Regulations define “active cropping including hayland” as “annual management of disturbed areas for row crops or cut hay, including at least one row crop harvest or two hay cuttings per year for the lifetime of project. Row crops shall use approved conservation tillage practices.”⁹⁶ In other words, the land would—despite the presence of solar panels—continue to serve as productive farmland. In these circumstances, the concern underlying House Bill 206—that prime farmland will be lost to solar development—is no longer present. And if there is active agricultural activity throughout the life of the solar project, as the Proposed Regulations require, the risk of losing farmland is effectively avoided.

Eliminating the mitigation requirements here could also provide an additional financial incentive to implement “active cropping including hayland” at future solar facilities. Consider again the large (150 MW) solar facility, discussed above. Under the Proposed Regulations, assuming the applicant opted for soil mitigation Option 3 and “active cropping including hayland,” the in-lieu fee would still be significant at \$843,750.⁹⁷ This may seem minor compared to the overall investment, but paying close to a million dollars *in addition to* funding a facility that maintains productive farmland will make this “best practice” less attractive. It is also unfair to require developers to pay to preserve additional farmland despite going to these lengths onsite.

⁹⁶ 9 Va. Admin. Code § 15-60-10 (proposed).

⁹⁷ $(2,250,000/2) \times 0.75\%$.

Next, we recommend that DEQ consider eliminating the mitigation requirement for projects that incorporate “managed grazing”. The Proposed Regulations define “managed grazing” as “active grazing by sheep or other livestock for the project lifetime, using appropriate management (e.g., rotational grazing), and maintaining greater than 75% living vegetative cover.”⁹⁸ While this definition does not require the same level of productivity as “active cropping including hayland”, it does require that the solar installation maintain an agricultural purpose. During the advisory panel meetings, one participant commented that the proposed discount for managed grazing was “too low”, explaining that “[n]ot only does this management alternative contribute to the restoration of soil resources, but it also involves an original function of prime farmland.”⁹⁹ DEQ responded that “[w]hile this management use does preserve an original function of prime farmland, it doesn’t go far enough in preserving the value of prime farmland, and so the credit awarded is appropriate.”¹⁰⁰ Respectfully, we recommend that DEQ reconsider this determination. There is extensive evidence that managed grazing not only maintains the “original function” of agricultural land, but also can improve soil quality and productivity.¹⁰¹ Accordingly,

⁹⁸ 9 Va. Admin. Code § 15-60-10 (proposed).

⁹⁹ *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 2*, Va. Dep’t of Env’tl Quality (July 25, 2023) at 11, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38274\Minutes_DEQ_38274_v1.pdf (RAP participant Tyson Utt, CEP Solar).

¹⁰⁰ *Id.*

¹⁰¹ See Tommy Cleveland & David Sarkisian, *Balancing Agricultural Productivity with Ground-Based Solar Photovoltaic (PV) Development*, N.C. Clean Energy Tech. Ctr., N.C. State Univ. (May 2019), at 9 *Balancing-Agricultural-Productivity-with-Ground-Based-Solar-Photovoltaic-PV-Development-1.pdf* (“The appropriate use of alternative vegetative maintenance strategies, such as grazing with sheep, can reduce the use of mowing equipment onsite and therefore the compaction that may result from using this equipment. Furthermore, livestock grazing works to cycle nutrients in the pasture ecosystem onsite and improve the soil.”); see also Lazcano et al., *Sheep grazing as a strategy to manage cover crops in Mediterranean vineyards: Short-term effects on soil C, N and greenhouse gas (N₂O, CH₄, CO₂) emissions*, *Agriculture, Ecosystems & Environment* 327 (Apr. 1, 2022) (noting that “sheep grazing could potentially increase soil health by increasing soil C and soil organic matter” and that the “benefits to soil health and C sequestration are maximized in regenerative sheep grazing systems, which consist of high density but short duration grazing events.”), <https://www.sciencedirect.com/science/article/pii/S0167880921005296>; *Making the Case for Solar Grazing*, Center for Rural Affairs, <https://www.cfra.org/sites/default/files/publications/making-the-case-for-solar-grazing-web.pdf> (last visited Dec. 3, 2024). Consider also that under the Proposed regulations, a farmer who currently raises sheep on his land and chooses to install solar panels while continuing to graze sheep on the site would

we recommend that DEQ revise the regulations to allow installations with managed grazing to avoid the in-lieu fee entirely or, at least, receive a greater discount.

Drawing brighter lines between good and bad projects through greater incentives is not only consistent with the enabling legislation, but it will also lead to better outcomes at future solar facilities.

D. The Proposed Regulations provide flexibility in important ways, which recognizes the site-specific nature of responsible solar development and mitigation.

In several sections, the Proposed Regulations provide important flexibility to the DEQ and solar developers, which will help to improve the efficiency and efficacy of the Permit-by-Rule process.

First, the flexibility afforded to developers to work with DEQ and localities to shape appropriate mitigation plans is consistent with the enabling legislation¹⁰² and reflects the site-specific nature of solar projects. In particular, we support 9 Va. Admin. Code § 15-60-60(E)(7) and 9 Va. Admin. Code § 15-60-60(F)(4) of the Proposed Regulations, which allow the applicant to “propose innovative alternatives to the required mitigation” of impacts to prime agricultural soils and forest lands and authorize DEQ to accept those proposals as alternative mitigation or adjust mitigation ratios accordingly. This flexibility will allow developers and localities to work together to determine optimal mitigation for specific sites and gives localities the opportunity to participate more effectively in the Permit-by-Rule process. As one developer in the advisory panel observed, “it may be appropriate that DEQ allow for some level of discretion or flexibility in their mitigation

have to pay for costs of mitigation elsewhere. This result seems unnecessarily punitive for farmers who may be seeking to diversify their income streams.

¹⁰² See 2022 Va. Acts Ch. 288, Enactment Clause 2 (“The advisory panel shall also consider a process by which an applicant may satisfy its mitigation obligations by agreement with a locality.”)

requirements to allow for strongly held local priorities to be met” rather than imposing duplicative requirements.¹⁰³ The Proposed Regulations seem to address this concern.

Second, subsection 9 Va. Admin. Code § 15-60-40(D)(2) provides appropriate flexibility for preconstruction mapping of prime agricultural soils. Throughout the advisory process, developers commented that there were often discrepancies in the Web Soil Survey¹⁰⁴ and we appreciate that the final regulations take this concern into account by allowing the applicant to provide “an alternative map of the prime agricultural soils on the site based on a report prepared by a professional soil scientist licensed by the Commonwealth of Virginia.”¹⁰⁵

Third, the exceptions to the Permit-by-Rule requirement included in subsections 9 Va. Admin. Code § 15-60-130 appropriately reduce unnecessary barriers to small projects and brownfield development. These exceptions will encourage not only small—and by their nature less impactful—projects, but will also incentivize solar construction on already developed sites and land bordering disturbed sites.

Finally, we recommend that the final regulations adopt the mitigation district proposal recommended in The Nature Conservancy’s comments on the Proposed Regulations, which will also provide appropriate flexibility. Allowing mitigation within these broader districts would achieve a balance between ensuring offsets to the impacted land and community while also providing an expansive enough territory for developers to identify plots for conservation easements in a reasonable timeframe.

¹⁰³ *Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 4*, Va. Dep’t of Env’tl Quality (Sep. 28, 2023) at 8, https://www.townhall.virginia.gov/L/GetFile.cfm?File=meeting\53\38276\Minutes_DEQ_38276_v1.pdf (RAP participant Tyson Utt, CEP Solar).

¹⁰⁴ *See, e.g. Meeting Notes/Minutes from Regulatory Advisory Panel Meeting 2*, Va. Dep’t of Env’tl Quality (July 25, 2023) at 4, https://www.townhall.virginia.gov/L/GetFile.cfm?File=Meeting\53\38274\Minutes_DEQ_38274_v1.pdf (participant Chip Dicks III, CSSA).

¹⁰⁵ 9 Va. Admin. Code § 15-60-40(D)(2).

IV. Conclusion

Accordingly, and for the reasons set out above, we offer the following recommendations:

- The mitigation options under the Proposed Regulations be modified as follows to better reflect the life cycle and benefits of utility-scale solar installation:
 - Conservation Easements. DEQ should revise the “conservation easement” definition by removing the requirement that this mitigation be “perpetual” and specifying that that “conservation easements” should last for the life of the small renewable energy project requiring mitigation, with an option to extend the easement if the life of the facility is extended.
 - In-lieu Fee. While we do not have a recommendation for a specific numerical discount to the \$3,000/acre in-lieu fee in the Proposed Regulations, we urge DEQ to consider adopting a lower number in the final regulations in recognition of the central role solar plays in the clean energy transition, the related land and environmental preservation benefits, and the impact of this fee on Virginia ratepayers.
- The Proposed Regulations be modified as follows to provide more substantial rewards and incentives to solar facilities that best utilize the following mitigation practices and agrivoltaics features:
 - First, we recommend eliminating the requirement to purchase a conservation easement or pay an in-lieu fee for projects that opt for the first mitigation option “to preserve prime agricultural soils,” referred to as “Option 1: no change in grade.”

- We recommend that “active cropping including hayland,” in combination with any of the three soil mitigation options in 9 Va. Admin. Code § 15-60-60(E)(3), eliminate the conservation easement or in-lieu fee requirement.
- We recommend that “managed grazing,” in combination with any of the three soil mitigation options in 9 Va. Admin. Code § 15-60-60(E)(3), eliminate the conservation easement or in-lieu fee requirement, or, in the alternative, receive a steeper discount than the proposed 25% reduction.
- The sections of the Proposed Regulations providing DEQ, solar developers, and localities with flexibility to develop alternative site-specific mitigation plans should be adopted in the final regulations.

Respectfully submitted,

Emma Clancy, Staff Attorney
 Josephus Allmond, Staff Attorney
 SOUTHERN ENVIRONMENTAL LAW CENTER
 120 Garrett St., Suite 400
 Charlottesville, VA 22902
 Tel: (434) 977-4090
 Fax (434) 977-1483

Victoria Higgins
Virginia Director
 Chesapeake Climate Action Network
 701 E. Franklin St, Suite 1115
 Richmond, VA 23219
 vhiggins@chesapeakeclimate.org

Walton C. Shepherd
Virginia Director & Senior Attorney
 Natural Resources Defense Council
 2105 M Street
 Richmond, VA 23223
 T 804.401.9236

Peter Anderson
Director of State Energy Policy
 Appalachian Voices
 244 E. High Street
 Charlottesville, VA 22902
 (434) 249-6446 cell

Connor Kish
Director
 Sierra Club Virginia Chapter
 100 W. Franklin St., Mezzanine
 Richmond, VA 23220
 connor.kish@sierraclub.org
 804-225-9113