

OUR COMMON AGENDA

2024 ENVIRONMENTAL BRIEFING BOOK

a publication of Virginia Conservation Network





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OUR COMMON AGENDA: 2024 ENVIRONMENTAL BRIEFING BOOK

*A publication of the
Virginia Conservation Network*

Our Common Agenda is written by, vetted through, and voted on by the 160+ Network Partners of the Virginia Conservation Network. *Our Common Agenda* represents the collaborative policy recommendations of more than 160 organizations across Virginia. This briefing book is intended to be used as an educational guide for policy makers and advocates to address the environmental problems facing Virginia with state-based policy solutions.

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ABOUT VCN

Founded as the Conservation Council of Virginia in 1969, Virginia Conservation Network (VCN) began as a roundtable of major conservation groups and has grown to include over 160 Network Partners across the Commonwealth. VCN is committed to building a powerful, diverse, and highly-coordinated conservation movement focused on protecting our Commonwealth's natural resources.

VCN is a facilitator of strategic action, a resource for Network Partners statewide, and a constant conservation presence in Virginia's Capitol. Playing a unique role in Virginia's conservation community, VCN helps the community speak with one coordinated voice. The organization and its staff focus on strengthening the conservation community as a whole and winning environmental victories that benefit all Virginians.

VCN's Network Partners work on a wide range of issues from stream restoration, to transportation reform, to renewable energy advancement, to promoting sustainable community growth, to environmental justice and more. Given the diverse work of our partner organizations, VCN organizes its programs into four main categories: **WATER, LAND & WILDLIFE CONSERVATION, CLIMATE & ENERGY, and LAND USE & TRANSPORTATION.**

VCN is proud to serve as the state lead for the Choose Clean Water Coalition, the regional coalition advocating for clean rivers and streams in communities throughout the Chesapeake Bay Watershed; and as the Virginia state affiliate for the National Wildlife Federation.

VCN IS A PROUD MEMBER PARTNER OF THE FOLLOWING ORGANIZATIONS:



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VIRGINIA CONSERVATION PHOTOGRAPHY CONTEST WINNER

Every year, we ask Virginia's amateur photographers to share their best conservation photography of Virginia to showcase within *Our Common Agenda*. The public votes to decide on the featured cover photo of the Briefing Book, as well several award categories. This year's photo contest winner is Sue Mangan's photo of a cast net fisherman enjoying the early sun on East Ocean View Beach in Norfolk, Virginia.

Sue Mangan is a Norfolk VA based conservation and environmental visual storyteller. Retired from her work in aquatics management and competitive swim coaching, she still finds joy in, and being around, water. Early mornings are her favorite time of day to paddle her kayak or walk along the beach. Her artistic focus has always been the patterns, shapes, space and reflection that water reveals. Much of her work is Chesapeake Bay focused, with images that explore the story of this beautiful and threatened place.

More of Sue's photography can be found on her Instagram profile (@suecmangan).

HOW THE BRIEFING BOOK GETS DRAFTED

Our Common Agenda briefing book is written by, vetted through, and voted on by VCN's 160+ Network Partners. Here's our process for crafting our shared policy agenda:

ISSUE WORKGROUPS HOST ANNUAL MEETINGS

VCN's issue workgroups (Clean Water, Land & Wildlife Conservation, Climate & Energy, and Land Use & Transportation) discuss the feasibility of policy recommendations and decide which issues should be covered in the Briefing Book. During this process, the authors of each policy paper are also selected.

AUTHORS PUT PEN TO PAPER

The collaborative process is truly on display while co-authors craft their policy papers. Generally, anywhere from 2-4 authors work on each briefing paper and consult with VCN staff to ensure that each paper reflects policy recommendations that are both attainable and effective.

ISSUE WORKGROUPS CONDUCT EXTENSIVE REVIEWS

Once the policy papers have been drafted by authors, VCN's issue workgroups review all of the papers. Authors incorporate the workgroup's feedback to make stronger arguments or more effective policy recommendations. By the time policy papers have been fully reviewed and finalized, they are read by at least 5-10 experts in the topic's field.

EQUITY REVIEW COMMITTEE WORKS TO ENSURE POLICIES ARE EQUITABLE

In order to avoid policy recommendations that may have an adverse impact on environmental justice communities - specifically low-income communities, communities of color, and rural communities - a team of Network Partners serves on the Equity Review Committee. The committee reviews all briefing paper drafts to ensure that policies won't have unintended consequences and looks for opportunities where policies can lift up historically marginalized communities. Recommendations offered by the Equity Review Team are considered by the co-authors and integrated to the best of their collective ability. This year, the Equity Review Committee members were:

Victoria Higgins
Grace Tucker
Caetano de Campos Lopes
Maribel Castañeda

Paul Armstrong
Margaret Hofstedt
Sophia Chapin
Vivienne Pierce McDaniel

Leah McCord
McKenna Dunbar
Tytus Suchotinunt
Nicole Duimstra

LEGISLATIVE COMMITTEE VOTES ON POLICY RECOMMENDATIONS

Our legislative committee – co-chaired by Ann Jurczyk, Chesapeake Bay Foundation and Faith Harris, Virginia Interfaith Power & Light – is made up of partners from each of our workgroups who have experience working on policies in Richmond. This is an opportunity to break down the silos between workgroups - energy experts review water papers, land conservation experts review transportation papers, etc. This helps ensure policies don't unintentionally adversely impact other workgroup issue areas as well as to ensure policies are bold yet attainable. Policy recommendations are voted on by the committee.

BOARD OF DIRECTORS VOTE TO ACCEPT EACH POLICY PAPER

The final step in the journey from a policy idea to a place in *Our Common Agenda* is a vote by VCN's Board of Directors. Each policy paper is presented to the Board and a vote on its inclusion follows. This final step of the process ensures that topics and policy recommendations are in line with VCN's mission and goals.

OUR COMMON AGENDA

A MESSAGE FROM THE EXECUTIVE DIRECTOR

Thank you for opening up a copy of Virginia Conservation Network's (VCN) *Our 2024 Common Agenda*.

Our Common Agenda is your road map for state-based, pragmatic, policy solutions to address the environmental problems facing Virginia. A collection of papers written by, vetted through, and voted on by VCN's 160+ Network Partners, this book lays out a suite of policy ideas to address clean water & flood resilience, land & wildlife conservation, land use & transportation, climate & energy, and good governance.

I encourage you to use this book both as an educational resource as well as a Rolodex for leading conservation advocates in Virginia. The authors of *Our Common Agenda* are leading conservation advocates in Virginia. They ground their research and findings in science and present practical policy solutions that strive to be equitable for all Virginians.

As a partnership of 160+ conservation organizations, VCN believes that if we work together to solve Virginia's biggest environmental problems we'll leave the Commonwealth better than we found it for the next generation. I'm looking forward to working with you on whichever topic or topics interests you the most. Feel free to reach out to me, my team, or any of the authors in this book for more information.



A handwritten signature in black ink, appearing to be 'MR' or similar initials.

Mary Rafferty
Executive Director



CLEAN WATER & FLOOD RESILIENCE

Virginia’s creeks, rivers, and bays are already seeing climate change impacts – from sea level rise along our coastlines, to polluted runoff, from increasingly severe storms, to surges of flooding statewide. We need to protect and expand upon policies and programs in place to ensure clean waters and a flood-resilient future for all Virginians. We must also continue to make progress towards our Chesapeake Bay goals as the 2025 watershed clean-up deadline is rapidly approaching. To significantly reduce the amount of pollution delivered to our nation’s largest estuary, we must ensure strong and sustained funding for key local and statewide initiatives to reduce pollution from stormwater runoff, agriculture, industrial toxins, and plastic waste.

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EXECUTIVE SUMMARIES & CONTACT INFORMATION

PREVENTING POLLUTED STORMWATER RUNOFF

Stormwater runoff is the fastest-growing source of pollution to our water and the main reason many of our urban streams are impaired. Significant development pressures result in the expansion of impervious surfaces – parking lots, roofs, and roads – in suburban and urban areas (including huge distribution and data centers). More intense rainfall events are in the forecast as a result of climate change, bringing more water and potentially costly flooding into homes and businesses. Virginia's plan to clean up the Chesapeake Bay calls for strong investments in better stormwater control to protect clean water and frontline communities.

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Adam Gold // Environmental Defense Fund // agold@edf.org
Brent Hunsinger // Friends of the Rappahannock // brent.hunsinger@riverfriends.org
Joe Wood // Chesapeake Bay Foundation // jwood@cbf.org

WORKING WITH FARMERS TO PROTECT OUR WATERWAYS

Agriculture is Virginia's largest industry by many metrics. It also represents the largest source of nutrient and sediment pollution reaching Virginia's local streams, rivers, and the Chesapeake Bay. Fortunately, addressing these pollution loads offers an opportunity to improve the Commonwealth's natural resources while also enhancing working farms and forests. The Virginia Agricultural Cost Share Program (VACS) funds the implementation of a wide suite of agricultural best management practices that reduce pollution while enhancing farm productivity. Virginia should follow through on its commitment to fully fund this impactful program. Additionally, Virginia should develop new pay-for-outcome programs that promote innovation and assurance.

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MEETING WASTEWATER UPGRADE OBLIGATIONS

Wastewater treatment facility technology upgrades have helped the Commonwealth reduce pollution to state waters and achieve our Chesapeake Bay Total Maximum Load (TMDL) Phase III Watershed Implementation Plan (Phase III WIP) goals. While nutrient reductions from wastewater treatment plants have been the leading source of reductions towards our Phase III WIP, there are additional upgrades in the queue that require significant financial support as well as additional needs for Combined Sewer Overflow (CSO) systems. For some upgraded facilities, state incentives may help reduce nutrient discharges even further. Virginia must support wastewater treatment facility upgrades to protect water quality and public health.

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ENFORCING WATER QUALITY STANDARDS

Many Virginia streams are degraded by excessive sediments, nutrients, and pollutants that cause unnatural colors and odors. Toxic pollutants not covered by numeric criteria are found at dangerous levels in public water supplies. These conditions violate the narrative water quality criteria set by the State Water Control Board (SWCB). Failure to fully enforce narrative criteria harms drinking water, recreation, biodiversity, and the overall health of aquatic ecosystems. The state must assess compliance with narrative criteria in all regulatory actions, impose appropriate permit limits, and make impaired waterbody designations based on the narrative criteria.

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Aerial Fall Foliage –Sugar Creek, Va
Photo by Cassidy Girvin



CLEAN RIVERS, CREEKS, & BAYS

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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PREVENTING POLLUTED STORMWATER RUNOFF

CLEAN RIVERS, CREEKS, & BAYS

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EXECUTIVE SUMMARY

Stormwater runoff is the fastest-growing source of pollution to our water and the main reason many of our urban streams are impaired. Significant development pressures result in the expansion of impervious surfaces – parking lots, roofs, and roads – in suburban and urban areas (including huge distribution and data centers). More intense rainfall events are in the forecast as a result of climate change, bringing more water and potentially costly flooding into homes and businesses. Virginia’s plan to clean up the Chesapeake Bay calls for strong investments in better stormwater control to protect clean water and frontline communities.

CHALLENGE

Virginians rely on local creeks and rivers for healthy, vibrant communities and strong economies. Three out of four Virginians depend upon healthy headwater streams for their drinking water.¹ Our Commonwealth is the

largest seafood producer on the East Coast, with 50 commercially harvested species.² Our outdoor recreation industry is booming, providing over 100,000 direct jobs and \$4.4 billion in wages and salaries.³

THREE OUT OF FOUR VIRGINIANS DEPEND UPON HEALTHY HEADWATER STREAMS FOR THEIR DRINKING WATER

Despite our reliance on healthy waterways, polluted runoff — the muddy stew of stormwater, dirt, bacteria, toxins, and plastic waste that runs off lawns, streets, parking lots, and other hard surfaces — continues to threaten our local creeks, streams, and rivers. It remains the fastest growing source of pollution to the Chesapeake Bay, undermining Virginia’s goal to restore local streams and the Bay by 2025. Much of our urban and suburban infrastructure was built before we fully understood how stormwater degrades local streams. Now, many larger localities are

required to reduce the nutrient and sediment pollution that they contribute to Virginia’s waterways. Implementing programs to achieve these reductions — like projects to retrofit older infrastructure — can be expensive and often require access to private property. For years, low-income communities have been among the least likely to receive state funding to support this work. The state can and should encourage pollution reduction practices by providing both strong, equitable funding support and legislative support to ensure all homeowners can install best management practices, as well as strengthening our existing stormwater regulations to account for heavier, more frequent rain events due to climate change. Cities and towns, churches and schools, homeowners, and developers — everyone has a role to play in keeping nutrient and sediment pollution out of our stormwater.

SOLUTION

STORMWATER LOCAL ASSISTANCE FUND

The Stormwater Local Assistance Fund (SLAF) is a state and local matching grant program that protects and improves the health of our waterways by funding locality stormwater projects.⁴ This fund has recently been amended to provide additional attention to fiscally stressed communities and flood resilience. Over its lifespan, SLAF has authorized \$178 million in grants for 331 projects across Virginia, and demand for this program will continue to grow.⁵ Based on the reduction in stormwater-caused pollution that Virginia must make to achieve the Commonwealth’s Bay Cleanup Plan, and the cost to date of cleaning up pollution from this source, the state needs to invest approximately \$80 million in SLAF annually. The General Assembly provided \$25 million in Fiscal Year 2023, with no funding allotted for Fiscal Year 2024. Strong, sustained funding and updated guidelines are critical to ensure progress can be maintained and the program is utilized.

VIRGINIA CONSERVATION ASSISTANCE PROGRAM

The Virginia Conservation Assistance Program (VCAP) is an urban cost-share program facilitated by Virginia’s participating Soil and Water Conservation Districts (SWCDs). VCAP provides financial incentives and technical and educational assistance to commercial and residential property owners installing eligible Best Management Practices (BMPs) where problems like erosion, poor drainage, or poor vegetation occur. These practices such as rain gardens, conservation landscaping, and more complex engineered solutions such as vegetated conveyance systems are installed. To date, over 900 projects have been completed with \$6.2 million obligated in cost-share to property owners in Virginia. This program provides an ideal way for Virginians to make a difference in their communities and is utilized most when consistently funded. Furthermore, legislative support would also help ensure residents of Virginia’s 8,810 community associations⁶ can leverage this program without being prohibited from installing conservation landscaping via their covenants.

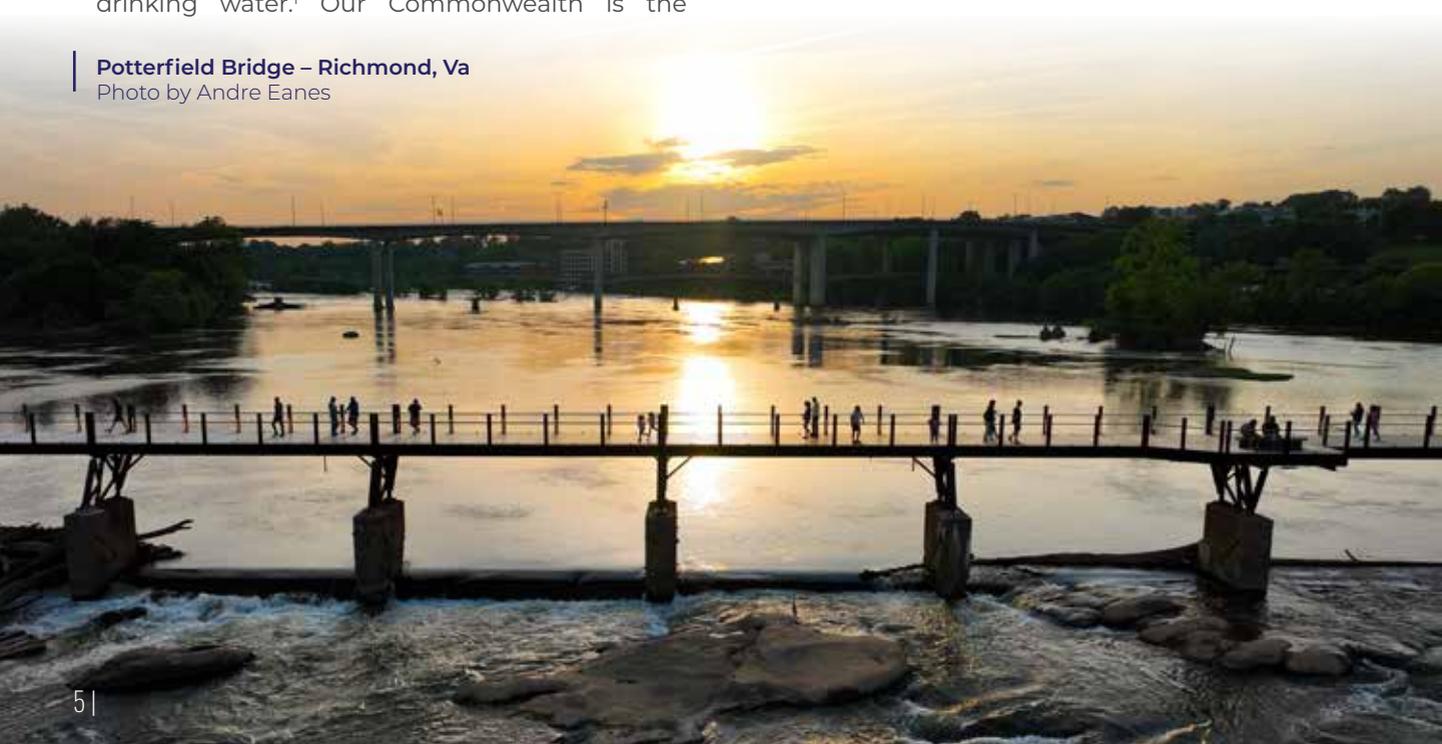
POLICY RECOMMENDATIONS

\$80 million each year for the Stormwater Local Assistance Fund to invest in pollution reduction projects and help localities meet their local water quality needs on time.

\$4 million each year for the Virginia Conservation Assistance Program to address stormwater runoff from existing impervious surfaces, create wildlife habitat, promote flood resilience, and protect property values and economic opportunity.

Ensure that homeowners living in community associations have the option to install conservation landscaping to help address runoff on private property.

Potterfield Bridge – Richmond, Va
Photo by Andre Eanes



WORKING WITH FARMERS TO PROTECT OUR WATERWAYS

CLEAN RIVERS, CREEKS, & BAYS

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EXECUTIVE SUMMARY

Agriculture is Virginia's largest industry by many metrics. It also represents the largest source of nutrient and sediment pollution reaching Virginia's local streams, rivers, and the Chesapeake Bay. Fortunately, addressing these pollution loads offers an opportunity to improve the Commonwealth's natural resources while also enhancing working farms and forests. The Virginia Agricultural Cost Share Program (VACS) funds the implementation of a wide suite of agricultural best management practices that reduce pollution while enhancing farm productivity. Virginia should follow through on its commitment to fully fund this impactful program. Additionally, Virginia should develop new pay-for-outcome programs that promote innovation and assurance.

CHALLENGE

Virginia has made substantial progress in developing and implementing VACS and has accelerated investment in agricultural pollution reduction efforts in recent years. Still, we are not on track to achieve nutrient and sediment reduction goals. Achieving our goals will require sufficient, sustained financial and technical support through a fully-funded VACS program. Further, it will also require new innovative and creative approaches.

The Virginia Department of Conservation and Recreation (DCR) administers VACS through the Soil and Water Conservation Board and Virginia's 47 Soil and Water Conservation Districts. The Districts' experienced staff assists farmers and landowners in identifying opportunities to improve water quality and prevent pollution, provides technical assistance in implementing best management practices (BMPs), and helps to offset the cost of installing the practices. These BMPs include stream fencing and alternative water sources to keep livestock out of streams; nutrient management plans that promote

efficient fertilizer application; riparian buffers to filter pollutants from runoff; and many other practices essential to protecting Virginia's waterways.

In an evaluation of Chesapeake Bay efforts, a report from the Chesapeake Bay Program's Scientific and Technical Advisory Committee (STAC) concludes that the adoption of new policies, procedures, and expanded capacities are needed to improve responses.¹ Specifically, the report recommends increased incentives for innovation that offer opportunities to reward the treatment of high-loss areas and to encourage the adoption of highly effective practices that land managers may not consider under standard cost-share programs.

SOLUTION

Every other year, DCR—working with farmers, the Soil and Water Conservation Districts, and other stakeholders—compiles an Agricultural Needs Assessment detailing how much investment is needed for agricultural BMPs. The most recent assessment shows that, in order to maximize benefits to local and downstream waterways and Virginia communities, VACS should be funded at no less than \$250 million over the biennium.² For the first time, the General Assembly has fully-funded the VACS program in the state budget, a major achievement for Virginia. Strong, sustained funding at the level identified in the Agricultural Needs Assessment will facilitate a faster pace of progress, improve water quality, and invest in Virginia farm futures both in and beyond the Chesapeake Bay Watershed. Investments in agricultural BMPs improve water quality, create local jobs, and deliver economic benefits for rural communities.

INVESTMENTS IN AGRICULTURAL BMPs IMPROVE WATER QUALITY, CREATE LOCAL JOBS, AND DELIVER ECONOMIC BENEFITS FOR RURAL COMMUNITIES

Additionally, a recent evaluation of Chesapeake Bay clean-up efforts suggests³ that new programs are needed to promote innovation and connect investments to outcomes. Virginia should seek new opportunities to both support our cost-share programs and promote innovation. Further, within the VACS program, DCR should seek innovative ways to increase enrollment of known high-return on investment practices like streamside cattle fencing and nutrient management plan writing for crop fields.

It is important that these investments in agricultural BMPs are equitably reaching historically underserved communities like farmers of color. As noted by the Virginia Soil and Water Conservation Board,⁴ the allocation of funding for the VACS program should address Diversity, Equity, Inclusion, and Justice concerns, and the state should follow through with this directive.

POLICY RECOMMENDATIONS

Full funding (at least \$250 million) over the biennium for the Virginia Agricultural Cost-Share Program (VACS), as estimated by the Agricultural Needs Assessment and accounting for impacts related to inflation.

Sufficient and stable funding for technical assistance by Soil and Water Conservation Districts to ensure adequate staff capacity and training.

Additional financial incentives for long-term conservation practices like stream exclusion fencing and riparian buffers that are critical to meeting the requirements of the Watershed Implementation Plan and excluding livestock from all of the Commonwealth's perennial streams.

Promote strategies and policy initiatives to connect cost-share investments with outcomes.

“Winter Beauty” – Augusta, Va
Photo by Nancy Sorrells



MEETING WASTEWATER UPGRADE OBLIGATIONS

CLEAN RIVERS, CREEKS, & BAYS

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EXECUTIVE SUMMARY

Wastewater treatment facility technology upgrades have helped the Commonwealth reduce pollution to state waters and achieve our Chesapeake Bay Total Maximum Load (TMDL) Phase III Watershed Implementation Plan (Phase III WIP) goals. While nutrient reductions from wastewater treatment plants have been the leading source of reductions towards our Phase III WIP, there are additional upgrades in the queue that require significant financial support as well as additional needs for Combined Sewer Overflow (CSO) systems. For some upgraded facilities, state incentives may help reduce nutrient discharges even further. Virginia must support wastewater treatment facility upgrades to protect water quality and public health.

CHALLENGE

In the last decade and a half, many of Virginia's wastewater treatment plants have upgraded nutrient pollution removal technology to significantly reduce pollution discharged to local rivers and the Bay.¹ Simultaneously, our watersheds have more people, fewer forests, and face routine climate change impacts. Inflation and drawn-out project timelines further threaten our continued progress. Accordingly, Virginia and regional partners will have to enhance efforts to meet the goal of a restored Bay, as called for in the Commonwealth's Phase III WIP.²

We are seeing the fragile, yet remarkable, beginnings of a recovery of our waterways and Chesapeake Bay — increased water clarity and quality, thousands of acres of aquatic grasses, and resurgent oyster populations. These improvements wouldn't be possible without the hard work of wastewater agencies, the localities they serve, or the Commonwealth's commitment to wastewater improvement demonstrated through grants to upgrade pollution reduction capabilities. However, many achievable nutrient reductions for treatment facilities go undone

without additional state incentives, stalling further improvement.

RURAL COMMUNITIES “HAVE LONG FACED CHALLENGES WITH TOXIC WATER DUE TO INSUFFICIENT WATER INFRASTRUCTURE”

Virginia also has three cities with CSOs that, when overloaded by stormwater, send untreated storm and wastewater directly into nearby rivers with concerning health implications.³ Legislation in 2017 and 2020 put deadlines on Alexandria and Richmond to address untreated overflow events from their CSOs. But the scale of these infrastructure problems requires state help, and increased project costs and shifting timelines further impact these localities' ability to stay on track — particularly in Richmond, where 20.9% of residents are below the poverty line⁴ and already pay some of the highest wastewater rates in Virginia.

SOLUTION

The General Assembly placed Richmond on a timeline to remediate its CSO system by 2035 through legislation (SB1064) passed in 2020. In 2021, the Enhanced Nutrient Removal Certainty Program was established, which will ensure Virginia achieves the wastewater treatment technology upgrades necessary to meet the Phase III WIP.⁵ Still, the funding to implement these projects is critical to accomplishing these goals.

Not only will more complete wastewater treatment revitalize the Bay and its tributaries, but it will ensure that communities across the Commonwealth will more equitably receive the benefits of clean water in their own communities. Rural communities, especially rural communities of color, “have long faced challenges with toxic water due to insufficient water infrastructure,” while low-income ratepayers in urban areas struggle to afford wastewater and drinking water improvements.⁶ State investment will

help these communities maintain and improve aging infrastructure, prevent local water quality problems like toxic algae, and create good-paying jobs for skilled workers.⁷

Virginia should look to the estimated needs for wastewater and CSO upgrades when forming its next biennial budget. DEQ's latest annual needs assessment for the wastewater sector projects, state funding needs of \$252M in FY25 and \$270M in FY26 to help localities meet their pollution reduction goals through infrastructure upgrades. Additionally, Richmond's most recent report to the General Assembly on its CSO progress identifies projected costs to be over \$1.3 billion to complete remediation work on its combined sewer system.⁸

POLICY RECOMMENDATIONS

Continue supporting the facility upgrade deadlines for the Enhanced Nutrient Removal Certainty Program by fully funding state grants for wastewater treatment upgrades as identified by the Needs Assessment.

Maintain state funding to localities remediating aging CSO systems, once again making local rivers swimmable and fishable.

Incentivize upgraded facilities to further reduce nutrient discharges by optimizing operations.

Downtown Riverfront – Richmond, Va
Photo by Andre Eanes



ENFORCING WATER QUALITY STANDARDS

CLEAN RIVERS, CREEKS, & BAYS

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David Sligh // Wild Virginia // david@wildvirginia.org

EXECUTIVE SUMMARY

Many Virginia streams are degraded by excessive sediments, nutrients, and pollutants that cause unnatural colors and odors.^{1,2,3} Toxic pollutants not covered by numeric criteria are found at dangerous levels in public water supplies.⁴ These conditions violate the narrative water quality criteria set by the State Water Control Board (SWCB). Failure to fully enforce narrative criteria harms drinking water, recreation, biodiversity, and the overall health of aquatic ecosystems. The state must assess compliance with narrative criteria in all regulatory actions, impose appropriate permit limits, and make impaired waterbody designations based on the narrative criteria.

CHALLENGE

Water quality standards are the bedrock of the Clean Water Act and State Water Control Law, but important requirements in Virginia's standards are not being met decades after their adoption.

To address such problems, Virginia must fully implement its narrative water quality criteria, which describe conditions that must be prevented in all state waters. Waterbodies must "be free from substances...which interfere directly or indirectly with designated uses or which are inimical or harmful to human, animal, plant, or aquatic life."⁵ Thus, narrative criteria broadly prohibit conditions that negatively affect human uses or threaten people or wildlife. By contrast, numeric criteria comprise measurable levels of specific pollutants that are supposed to support all uses. Permit limits based on numeric criteria have been highly effective at improving water quality where they have been applied, but they cannot stand alone.⁶

TOXIC POLLUTANTS NOT COVERED BY NUMERIC CRITERIA ARE FOUND AT DANGEROUS LEVELS IN PUBLIC WATER SUPPLIES

Narrative criteria are necessary where the state has neither determined protective levels of pollutants nor adopted enforceable numeric criteria. Also, they are uniquely suited to situations where subjective judgments will determine whether human uses are supported.⁷ The use of narrative criteria is necessary to stop ongoing problems that interfere with the use of streams for human consumption or recreation, including nuisance or harmful algae blooms. Absent numeric nutrient standards, polluters currently know that they can continue business as usual unless or until the Commonwealth finally decides to impose narrative standards.

SOLUTION

Virginia regulates water pollution sources through Virginia Pollutant Discharge Elimination System (VPDES) permits, Virginia Water Protection (VWP) permits, and Clean Water Act section 401 water quality certifications. For each of these regulatory processes, the state is required to determine whether proposed activities could result in water quality standards violations. If analyses show that standards may be violated, the state must deny the permit or impose requirements to prevent the violation. For every new permit or certification, the state must now begin to perform these analyses for narrative criteria.

Sometimes, predictions of water quality standards violations prove incorrect, because knowledge as to how activities will alter natural systems and affect human uses is incomplete. In cases where permit or certification requirements are met but water quality standards are still violated, the state and citizens must be able to demand heightened protections. Therefore, in addition to limitations or technical requirements, each permit or certification should state that violation of in-stream water quality standards is a violation of that approval.

Finally, when Virginia conducts water quality assessments, it must incorporate information and data about violations of narrative criteria and make "impaired waterbody" designations based upon those criteria, as it does for numeric criteria. Listings will mandate further assessments, development of pollution diets for listed waters, and implementation plans to clean up pollution. This process has worked where violations of numeric criteria prompted impairment listings and resulted in permit limits, and must be followed for all narrative criteria.

Potomac River Buoy – Westmoreland, Va
Photo by Lucas Manweiler

POLICY RECOMMENDATIONS

Perform reasonable potential analyses for all narrative criteria when issuing permits or certifications through the DEQ and State Water Control Board.

Require that compliance with all parts of the water quality standards is a condition of all water permits.

Impaired waterbody listings should include those based on violations of narrative water quality criteria.

Fund harmful algae bloom testing and identification for non-tidal waterways through the VDH and fund the collection of water samples through DEQ for VDH testing.



EXECUTIVE SUMMARIES & CONTACT INFORMATION

REDUCING PLASTICS, LITTER, & MARINE DEBRIS

Eradicating plastic pollution is a top priority for many Virginians. Smart policy can keep plastic waste out of Virginia's streams, rivers, and coastal waters. Waters polluted with plastic have negative health effects on humans and wildlife. We can further tackle plastic pollution in Virginia by eliminating the most harmful types of mismanaged waste, incentivizing sustainable disposal of what we do use, and encouraging the shift to sustainable and reusable products. Virginia has made progress in eliminating plastic pollution in previous years and further actions would continue this legacy.

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STOPPING FALSE SOLUTIONS & PLASTICS-TO-FUELS

Virginia's waterways are under assault by single-use plastic pollution, but chemical conversion, also known as "advanced" or "chemical" recycling, is a false and flawed solution to the plastic pollution crisis threatening our local waterways, oceans, and aquatic animals. Chemical conversion will not reduce the use of single-use plastics – it will incentivize the continued use of plastics as a feedstock for plastics-to-fuel facilities. The resulting air pollution and hazardous waste generated from chemical conversion would put Virginia's communities and environmental health at risk. Policy can ensure that the industry does not pollute waterways, entrench our dependence on single-use plastics, and inequitably burden communities of color where chemical conversion plants are often sited.

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STOPPING PFAS POLLUTION AT ITS SOURCE

Per- and polyfluoroalkyl substances (PFAS) - "forever chemicals" - threaten our health and our environment. Initial studies conducted by the Virginia Department of Health (VDH) and the Virginia Department of Environmental Quality (DEQ) have confirmed PFAS contamination in surface waters, groundwater, and drinking water throughout the state. To address this pollution and public health problem, Virginia should use existing authority under the federal Clean Water Act to require disclosure and control of the discharge of these chemicals into our waters.

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PREVENTING HARMS FROM METALS MINING

Metals mining is both an old and new issue for Virginia. Mining for gold, copper, zinc, and lead in the 19th and early 20th centuries is, evidenced by hundreds of abandoned mines along the gold-pyrite belt which extends from Fairfax to Halifax Counties. A large-scale version of this toxic industry is now moving forward with neither a comprehensive regulatory framework nor sufficient financial assurances, putting public health and drinking water at risk. Virginia must support communities most at risk, protect our water resources and agricultural lands, and develop an effective regulatory framework for metals mining.

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Desolate Landscape – Tangier Island, Va
Photo by Michael Schimmel



PLASTIC & TOXIC WASTE

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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REDUCING PLASTICS, LITTER, & MARINE DEBRIS

PLASTIC & TOXIC WASTE

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EXECUTIVE SUMMARY

Eradicating plastic pollution is a top priority for many Virginians. Smart policy can keep plastic waste out of Virginia's streams, rivers, and coastal waters. Waters polluted with plastic have negative health effects on humans and wildlife. We can further tackle plastic pollution in Virginia by eliminating the most harmful types of mismanaged waste, incentivizing sustainable disposal of what we do use, and encouraging the shift to sustainable and reusable products. Virginia has made progress in eliminating plastic pollution in previous years and further actions would continue this legacy.

CHALLENGE

Our society produces single-use plastic items that are discarded, creating pollution and further extraction of natural resources.¹ When mismanaged, trash ends up in Virginia's natural landscapes and waterways. The unintended consequences of single-use plastics result in devastating impacts on wildlife, including sea turtles, birds, fish, mammals, and important water-filtering bivalves like oysters and mussels through entanglement and ingestion.²

Up to eighty percent of debris in the oceans comes from land: mismanaged waste, litter, illegal dumping, and uncovered trucks (e.g., expanded polystyrene, food- and beverage-related items, cigarette butts, and plastic grocery bags).^{3,4} Studies show that mismanaged

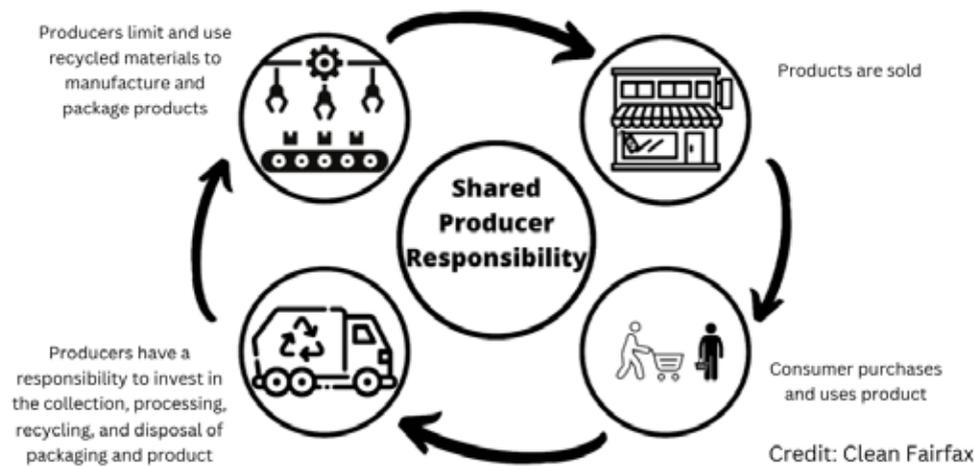
waste disproportionately affects historically disadvantaged and BIPOC communities.⁵ Exposure to plastic additives have negative biological effects on humans and wildlife⁶ with microplastics having been found in human lungs causing lesions and respiratory problems.⁷

UP TO 80% OF DEBRIS IN THE OCEANS COMES FROM LAND

In addition to on-land pollution sources, abandoned and derelict vessels (ADVs) obstruct navigational channels, cause harm to the environment, and diminish commercial and recreational activities. ADVs, most of which are plastic material reinforced with glass fibers, also have negative financial impacts.

While recycling is important, without collection mandates, robust reporting, and required benchmarks, it does not reduce single-use products nor does it hold producers responsible for the plastic pollution crises.

Sharing responsibility between taxpayers/consumers and producers has these components:



SOLUTION

ELIMINATING HARMFUL PLASTICS

Low-quality, flimsy and single-use plastics such as foam, bags, and packaging are a challenge to manage due to their overabundance and material, both of which result in staggering amounts of mismanagement, unintentional litter, and plastic pollution. Eliminating the most harmful types of plastics through bans and reduction mandates is the best way to reduce pollution.

EXTENDED PRODUCER RESPONSIBILITY (EPR)

A producer responsibility program incentivizes and/or requires manufacturers to decrease packaging; increase recycled content; and create recyclable, reusable, or biodegradable products. Manufacturers are required to reduce waste and pay for recycling infrastructure, rather than taxpayers.

CLOSING THE WASTE LOOP

While the primary goal of extended producer responsibility programs is to reduce the use of the most harmful single-use plastics at the source, these programs also work to close the waste loop by requiring producers rather than taxpayers to be financially and/or physically responsible for their products' waste. One example of successful EPR is beverage deposit programs- Oregon's program had an 88.5% bottle recycling rate in 2022.⁸ These programs best achieve waste reductions and high levels of recycling when they have strong collection mandates, benchmarks and reporting requirements.

CLEANING UP PLASTIC POLLUTION

Our goal is to reduce plastic pollution at the source, but we must clean up what ends up in our environment. Virginia's Litter tax is one way this work is funded, but it generates the lowest revenue per capita of any state⁹ - Virginia must implement policies to increase revenue in support of critical programs. The Commonwealth must continue funding programs that remove difficult marine debris such as fishing gear and abandoned and derelict vessels.

POLICIES TO REDUCE PLASTIC POLLUTION	SUPPORT BY VA VOTERS
Require less plastic in packaging	76%
Shift the costs of recycling programs off of community taxpayers and onto producers	71%
Deposits on beverage bottles and cans	65%
Cigarette litter fee	63%
Ban single-use plastic grocery and shopping bags	63%
Ban polystyrene food containers	61%

Data adapted from *Plastic Pollution: Virginia's Voters Support Action: 2022 Public Perception Survey*¹⁰

POLICY RECOMMENDATIONS

Ban the use of single-use expanded polystyrene by food vendors by 2024 rather than a 7-year phase-out period.

Establish an Extended Producer Responsibility program in Virginia code focused on reducing harmful packaging.

Adjust the litter tax for inflation every five years.

\$3 million for FY 2023-24 for the Virginia Abandoned and Derelict Vessel Prevention and Removal Program.

STOPPING FALSE SOLUTIONS & PLASTICS-TO-FUELS

PLASTIC & TOXIC WASTE

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EXECUTIVE SUMMARY

Virginia's waterways are under assault by single-use plastic pollution, but chemical conversion, also known as "advanced" or "chemical" recycling, is a false and flawed solution to the plastic pollution crisis threatening our local waterways, oceans, and aquatic animals. Chemical conversion will not reduce the use of single-use plastics – it will incentivize the continued use of plastics as a feedstock for plastics-to-fuel facilities. The resulting air pollution and hazardous waste generated from chemical conversion would put Virginia's communities and environmental health at risk. Policy can ensure that the industry does not pollute waterways, entrench our dependence on single-use plastics, and inequitably burden communities of color where chemical conversion plants are often sited.¹

CHALLENGE

Chemical conversion is a broad term encompassing a variety of failed and experimental

processes where plastic is incinerated in an oxygen-free environment to render a raw material to create fossil fuel (see graphic below). Often, the plastic used in this process is sourced from brokers or single companies, and would not accept residential or local plastic products used by Virginians.

SEVEN OF THE EIGHT US CHEMICAL CONVERSION FACILITIES ARE IN COMMUNITIES THAT ARE PREDOMINANTLY LOW INCOME, BLACK, OR BOTH

The increased air pollution and hazardous waste production resulting from chemical conversion put Virginians' health at risk. Pollution disproportionately burdens communities of color and, as a result of this environmental injustice, Black people are three times more likely to die from exposure to air pollutants than white people.^{2,3} In particular, seven of the eight chemical conversion facilities in the United States are in communities that are predominantly low income, Black, or both;⁴ this combined with

the fact that these facilities frequently violate EPA hazardous waste regulations further demonstrates chemical conversion as a false, inequitable solution.

Plastic pollution and the lack of an effective recycling industry have given the plastics industry an opportunity to market "advanced recycling" technology, like plastics-to-fuel, as a solution, despite the complete lack of operating success⁵ or addressing the root issue of an overabundance of plastic products.

The American Chemistry Council has succeeded in convincing eighteen state legislatures⁶ to pass bills which exempt these facilities from standardized industrial waste regulations – including Virginia.⁷

Moreover, the short history of chemical conversion facilities in Virginia confirms it as a false solution to the plastic pollution crisis and a waste of taxpayer money. Braven Environmental LLC abruptly canceled its plans to build a facility that purported to serve as a "solution" to the state's plastic waste problem in Cumberland County after receiving over \$200,000 in state grants in 2020.⁸

SOLUTION

The EPA recently said that it would strictly regulate plastics-to-fuel operations under the Clean Air Act but we still need a strong defense to ensure that Virginia does not fall victim to investing taxpayer money in false solutions.

State solid waste management policy should focus on reducing single-use plastics in the waste stream and as litter, reusing products where possible, and if recycling is required, elevating proven solutions that reduce the amount of virgin plastics manufactured.

Emerging technologies, such as plastics-to-fuel, should be robustly evaluated for safety and proof of scalability before being allowed in Virginia.

Technologies should be revenue generating (i.e. not reliant on taxpayer dollars) and proven to achieve goals that advance Virginia's quality of life, such as litter reduction, plastic waste management, and environmental equity.

We have seen the plastics-to-fuel industry stumble due to issues surrounding technology scalability, high volumes of hazardous waste production, energy consumption, and overall inability to turn over a profit.⁹ To truly tackle the plastic pollution crisis, Virginia needs actual plastic reduction solutions that reduce our reliance on single use plastic to protect human health, water quality, and aquatic life (see REDUCING PLASTICS, LITTER, & MARINE DEBRIS, pg 15).

POLICY RECOMMENDATIONS

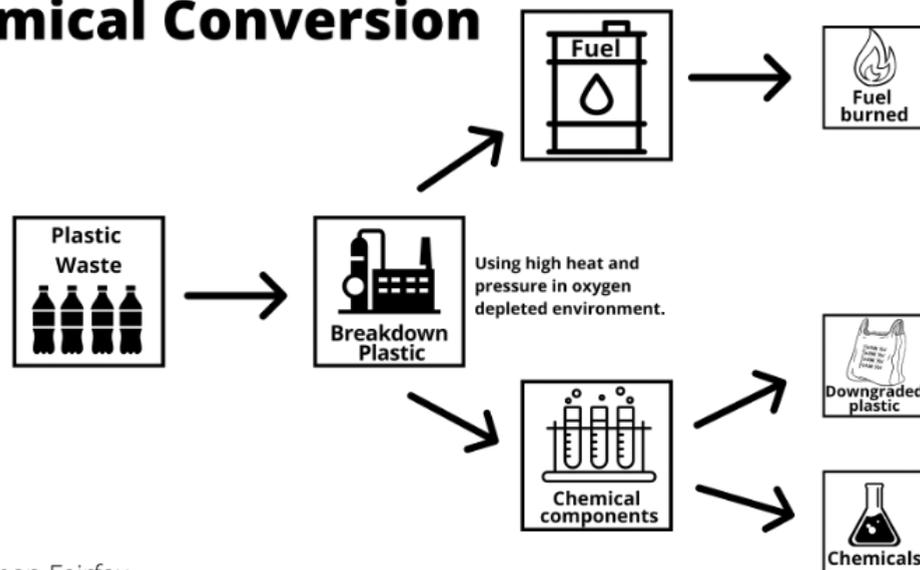
Establish that plastic-to-fuel, plastic-to-fuel substitute, or plastic-to-fuel additive technologies are not "recycling" as cited in the EPA Draft National Strategy to Prevent Plastic Pollution, and should be regulated using all applicable solid waste and environmental protection laws.

Support proven solutions that reduce overall plastic production outlined in REDUCING PLASTICS, LITTER, & MARINE DEBRIS, page 15.

Require comprehensive environmental justice impact analysis, including robust air quality monitoring systems in site suitability studies, to protect environmental justice communities in Virginia from disproportionate impacts of chemical conversion facilities.

Establish that tax incentives are not available to business (private or public) entities operating plastic-to-fuel, plastic-to-fuel substitute, or plastic-to-fuel additives facilities.

Chemical Conversion



Credit: Clean Fairfax

STOPPING PFAS POLLUTION AT ITS SOURCE

PLASTIC & TOXIC WASTE

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Per- and polyfluoroalkyl substances (PFAS) - “forever chemicals” - threatens our health and our environment. Initial studies conducted by the Virginia Department of Health (VDH) and the Virginia Department of Environmental Quality (DEQ) have confirmed PFAS contamination in surface waters, groundwater, and drinking water throughout the state.¹² To address this pollution and public health problem, Virginia should use existing authority under the federal Clean Water Act to require disclosure and control of the discharge of these chemicals into our waters.

CHALLENGE

Commonly called “forever chemicals,” PFAS are a class of over 9,000³ synthetic chemicals that do not easily break down but instead build up and persist in our bodies, soil, water, and wildlife.⁴ PFAS, even at very low levels, can cause significant human health harms, including cancer, harm to fetal and infant development, and reduced immune function.^{5,6} The public can come into direct contact with PFAS via everyday items like waterproof and stain-resistant fabrics and materials, food packaging, and non-stick cookware.⁷

CONVENTIONAL WATER TREATMENT SYSTEMS DO NOT REMOVE PFAS FROM DRINKING WATER

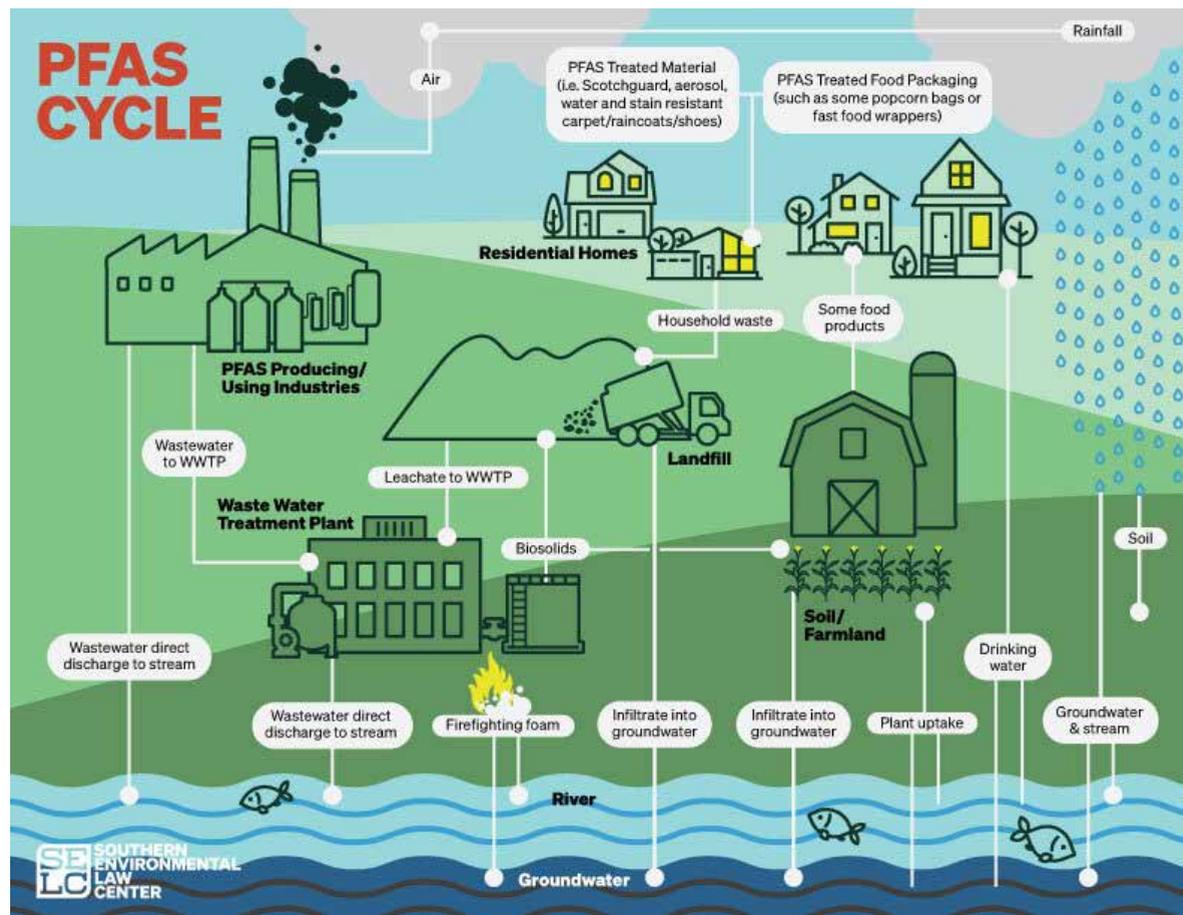
Communities are at risk of significant exposure to PFAS from concentrated streams of these chemicals released into our environment in firefighting foams, industrial wastewater discharges, landfills, and land-applied sewage sludge biosolids.⁸ Importantly, conventional water treatment systems do not remove PFAS from drinking water or wastewater and PFAS discharges can contaminate drinking water, surface water, soil, crops, and forage.⁹ Studies have found that members of low-income communities and communities of color are more likely to live within five miles of a PFAS-contaminated site and that these communities may be disproportionately exposed to PFAS in drinking water.^{10,11}

Unfortunately, Virginia does not require polluters to disclose or control these chemicals in their discharges or land-applied sewage sludge biosolids. This leaves downstream communities, private well owners, and farmers at risk or on the hook for costly cleanups. In Virginia, initial

studies have found PFAS contamination in public drinking water supplies, private wells, near the Richmond International Airport, and near military bases.^{12,13} The full extent of PFAS contamination in Virginia is unknown due to limited funding available for testing and data management.

SOLUTION

Drinking water standards are an important component of protecting public health, but ultimately PFAS pollution must be stopped at its source. Using existing authority, the Commonwealth should identify and control pathways of PFAS pollution and put the responsibility on polluters—not communities—to clean up their waste. Specifically, the federal Clean Water Act as applied through Virginia's Pollution Discharge Elimination System (VPDES) authorizes the Commonwealth to both monitor for and restrict discharges of PFAS into surface waters.¹⁴ States like North Carolina,¹⁵ Michigan,¹⁶ and Colorado¹⁷ are already using such authority to require industries to limit their PFAS discharge and help stop PFAS pollution at its source.



POLICY RECOMMENDATIONS

- Require industrial users to disclose and control PFAS released in their discharges through Virginia's existing wastewater permit and industrial pretreatment programs.
- Provide sufficient funding to DEQ to identify and eliminate potential pathways for PFAS contamination, which include wastewater discharges, land-applied sewage sludge biosolids, and landfill leachate, and to manage associated data.
- Continue and expand DEQ and VDH sampling of PFAS in surface water, groundwater, and drinking water.
- Establish drinking water standards and fish and game consumption standards for PFAS through VDH that are fully protective of public health
- Pursue PFAS cleanup cost recovery opportunities through joint or independent legal action.

PREVENTING HARMS FROM METALS MINING

PLASTIC & TOXIC WASTE

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EXECUTIVE SUMMARY

Metals mining is both an old and new issue for Virginia. Mining for gold, copper, zinc, and lead in the 19th and early 20th centuries is, evidenced by hundreds of abandoned mines along the gold-pyrite belt which extends from Fairfax to Halifax Counties.¹ A large-scale version of this toxic industry is now moving forward with neither a comprehensive regulatory framework nor sufficient financial assurances, putting public health and drinking water at risk. Virginia must support communities most at risk, protect our water resources and agricultural lands, and develop an effective regulatory framework for metals mining.

CHALLENGE

Metals mining is a land-intensive process representing the nation's #1 toxic pollution source² and often involves the use of cyanide. Mining procedures can result in perpetual acid mine drainage,³ catastrophic waste containment failures,⁴ destruction of cultural heritage, and the devastation of local economies as a result of the boom-and-bust cycle of the industry.

Junior mining companies have been prospecting near Virginia's gold-pyrite belt for several years,⁵ announcing "high grade" findings.⁶ This belt contains metals like iron, gold, copper, and zinc,⁷ and intersects innumerable environmental justice communities often overburdened with existing pollution.^{8,9} Of note, the surface drinking water systems for 3.2 million people are downstream of the belt.¹⁰ The belt crosses the James River, which provides drinking water for 2.7 million, brings millions of dollars into Virginia's economy from commercial fishing, and attracts over 6 million visitors annually.¹¹

3.2 MILLION PEOPLE'S DRINKING WATER SYSTEMS ARE DOWNSTREAM OF THE GOLD-PYRITE BELT

As the Commonwealth works to safeguard our watersheds and agricultural lands, the introduction of a new significant source of pollution – industrial metals mining – threatens the viability of those efforts. Additionally, hundreds of historic metal mines lay abandoned across Virginia's landscape.¹² The cost to taxpayers of reclaiming these abandoned sites is an economic burden and the negative health and environmental impacts of not reclaiming these sites is dangerous.¹³

Virginia's current mineral mining regulations are not designed to address modern-day industrial base and precious metals mining. Rather, they focus on the majority of active non-metals mining permits – sand, gravel, and stone aggregates.¹⁴

Legislation in 2021 required the study of the effects of gold mining on the Commonwealth,¹⁵ but assessment of current regulations has not yet occurred. Proposed legislation in 2022 addressed the specific threat of cyanide contamination, and although it received bi-partisan support, it did not advance from the General Assembly.¹⁶

SOLUTION

In order to protect people and the Commonwealth's natural resources, specifically its rivers, streams, and agricultural lands, Virginia must put in place an effective regulatory framework for mining metals.

To do so, the Commonwealth must seek a broad analysis of existing metals mining regulations – not limited to just one commercial product. Additionally, any workgroup, study, and/or review processes must include robust public engagement and education. Economic, human health, and environmental implications of metals mining and reclamation should be part of all evaluations. The threat of large-scale mining is statewide, and would have both short- and long-term impacts, so existing bonding, reclamation, closure, and monitoring regulations must be comprehensively evaluated and updated.

While the Commonwealth exercises due diligence in reviewing outdated and insufficient regulations, it should also implement a 'pause' on permitting any new metals mining projects. The granting of permits for the mining of gold,

copper, lead, or zinc, for example, without sufficient knowledge of project impacts, or with deficient regulatory oversight of impacts is inappropriate given the potential environmental, human health, and economic harms.



Green Mountain View – Appalachians near Grundy, Va |
Photo by Lori A Cash

POLICY RECOMMENDATIONS

- Direct the Virginia Department of Energy to pause the issuance of permits for large-scale gold, copper, zinc, and lead mining until the General Assembly has the time to implement a regulatory framework.
- Direct the Virginia Department of Energy and the Department of Environmental Quality to evaluate existing bonding, reclamation, closure, and monitoring regulations to develop a regulatory framework for mining metals that is protective of public health and our environment.
- Ban the use of cyanide in all metals mining processes.
- Require that the Virginia Department of Energy study and assess the mining impacts of copper, zinc, and lead.



EXECUTIVE SUMMARIES & CONTACT INFORMATION

ADVANCING EQUITABLE STATEWIDE FLOOD PLANNING

Virginians are experiencing climate change firsthand, from rising seas along our coastlines, to flash floods in our mountains, and more powerful storms statewide. Although we have new programs to address increasing flood risk, work is siloed between agencies, the amount of reliable funding pales relative to the challenges we face, and not all programs adequately prioritize the economic and ecological benefits of nature-based solutions. Further, funding decisions need to be connected to ongoing planning efforts, and more public involvement and transparency can ensure limited dollars are spent responsibly. Finally, we must direct more resources to the most urgent threats — protecting under-resourced communities from flooding and reducing high-risk development in floodplains.

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SAFEGUARDING VIRGINIA'S WETLANDS

By removing federal protections from vast swaths of wetlands, the Supreme Court's 2023 decision in *Sackett v. EPA* emphasizes the crucial role that state and local authorities must now play to preserve these critical resources that mitigate the impacts of flooding and filter pollution. The future of Virginia's wetlands depends on safeguarding the Commonwealth's existing wetlands protection programs and ensuring that agencies receive sufficient funding to fill the federal gap.

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FLOOD & CLIMATE RESILIENCY

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ADVANCING EQUITABLE STATEWIDE FLOOD PLANNING

FLOOD & CLIMATE RESILIENCY

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CHALLENGE

Flood resilience is a cross-sector issue impacting health and public safety as well as economic,

cultural, social, and natural resources. Enhancing coordination across government will improve Virginia's ability to address the diverse needs of climate-impacted communities and leverage financial resources to build more resilient socio-ecological systems. This work requires long-term commitment from multiple agencies and stakeholders across Administrations.

Virginia's leaders have made progress in identifying flood risks and are beginning to address community needs through the Community Flood Preparedness Fund (CFPF).¹ Moving forward, effective planning and project implementation across agencies will require more funding and extensive capacity and coordination at both state and local levels; under-resourced, small, and rural communities that do not have the capacity to address flood risk on their own will need additional support.

WITHIN 60 YEARS, NEARLY 1 MILLION VIRGINIANS WILL BE AT RISK OF MAJOR COASTAL FLOODING

For example, the CFPF, funded solely through Virginia's participation in the Regional Greenhouse Gas Initiative (RGGI),² distributed \$97.7 million statewide to 98 projects in 2021 and 2022. The program helps build local capacity, ensures at least 25% of distributed funding goes to under-resourced communities, and prioritizes nature-based projects. However, the most recent round of funding was heavily oversubscribed and with only one round of funding anticipated in late 2023, demand will be high, particularly for grants.

The Resilient Virginia Revolving Fund (RVRF), established in 2021, has \$25 million appropriated but lacks the CFPF's low-income set-aside and emphasis on nature-based solutions. Both funds need more consistent transparency, accountability, and oversight.

SOLUTION

An equitable and comprehensive approach to flood resilience is needed to protect Virginia's people, places, economy, and natural resources. State agencies must have clear direction to collaborate and adapt their programs and services to respond to climate change effectively. The continued prioritization and engagement of low-income, rural, and tribal communities is essential; DCR, DEQ, VDEM, and VMRC should assist low-resource localities with technical assistance in grant writing, regulation implementation, and planning.

Virginia must demonstrate its commitment to resilience by appropriating general funds to the CFPF to begin meeting demand and have matching funds available for the generational federal funding opportunities the IJA and IRA will provide over the next several years. To ensure resources are used in alignment with the Commonwealth's Resilience Guiding Principles,³ DCR should establish a project prioritization process connected to the CFPF award scoring process.

In 2022, the Youngkin Administration made

meaningful transparency commitments regarding CFPF and RVRF decision-making, including publishing all funding applications and scoring, soliciting public comment on guidance manuals, and establishing a public stakeholder panel to help evaluate applications. These commitments should be codified to ensure they are maintained across administrations.

Finally, we must ensure more funding from these programs is directed to the most significant needs — protecting under-resourced communities from flooding and reducing high-risk development in floodplains. To that end, the RVRF should incorporate the CFPF's required 25% set aside for under-resourced communities and include an explicit preference for projects that fund voluntary relocations of high-risk housing from floodplains, coupled with natural floodplain restoration.

POLICY RECOMMENDATIONS

No less than \$200 million in general funds to the Community Flood Preparedness Fund (CFPF) without impacting other natural resources funding.

Authorize and empower a standalone Chief Resilience Officer and no less than six FTEs to facilitate interagency collaboration and leverage resources, and identify resilience coordinators within agencies.

Establish a project prioritization process connected to DCR's flood risk planning and available funding sources. DCR, DEQ, VDEM, and VMRC should assist low-resourced localities with technical assistance, grant writing, regulation implementation, and planning.

Establish CFPF and Resilient Virginia Revolving Fund (RVRF) transparency commitments.

Require 25% of RVRF funds go to under-resourced communities; prioritize projects that reduce high-risk development and restore natural floodplains.



E-bike in floodwaters – Alexandria, Va
Photo by Bill Pugh

SAFEGUARDING VIRGINIA'S WETLANDS

FLOOD & CLIMATE RESILIENCY

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EXECUTIVE SUMMARY

By removing federal protections from vast swaths of wetlands, the Supreme Court's 2023 decision in *Sackett v. EPA* emphasizes the crucial role that state and local authorities must now play to preserve these critical resources that mitigate the impacts of flooding and filter pollution. The future of Virginia's wetlands depends on safeguarding the Commonwealth's existing wetlands protection programs and ensuring that agencies receive sufficient funding to fill the federal gap.

CHALLENGE

Wetlands — swamps, marshes, and other areas inundated or saturated by surface or groundwater — play a critical role in reducing storm surge and absorbing rainfall, regulating water quality, trapping carbon, and providing habitat for wildlife. Virginia has an exceptional diversity of wetlands, from forested swamps and upland bogs to tidal freshwater and salt marshes.

VIRGINIA IS EXPECTED TO LOSE AS MUCH AS 89% OF EXISTING TIDAL WETLANDS BY 2080 DUE TO CLIMATE-INDUCED SEA-LEVEL RISE

But those wetlands are also disappearing at an all-too-rapid pace. Virginia has already lost to development approximately half of the wetlands that existed in the 1780s,¹ and the Commonwealth is projected to lose as much as 89% of its existing tidal wetlands by 2080 due to climate-induced sea-level rise if we do not plan for wetlands migration.² To meet the goals of the Chesapeake Bay Total Maximum Daily Load, Virginia's Phase III Watershed Implementation Plan calls for the restoration of hundreds of acres of wetlands across each of the Bay's tributaries³ — but Virginia is not on track to achieve this initiative. Restoration efforts are simply not enough. We must ensure that our existing wetlands can survive the pace of sea level rise by migrating landward.

For more than 50 years, Virginia has benefited from its partnership with the federal government to protect the Commonwealth's wetlands. But the Supreme Court's 2023 decision in *Sackett v. EPA* removes federal protections from vast swaths of the nation's wetlands, with severe repercussions for water quality and flood control in Virginia. It now falls largely to our existing state tidal and nontidal wetlands regulations, and to state and local decision-makers charged with enforcing these regulations, to protect the wetlands that support Virginia's communities, local economies, and cherished resources such as the Chesapeake Bay.

SOLUTION

Virginia has the benefit of longstanding state laws to protect its state waters, which the General Assembly has defined broadly to include "all water, on the surface and under the ground" within its borders, "including wetlands."⁴ The Virginia Marine Resources Commission (VMRC) and local wetlands boards administer a permitting program for the protection of tidal wetlands under the Tidal Wetlands Act.⁵ The Virginia Department of Environmental Quality (DEQ) regulates activities that disturb either tidal or nontidal wetlands under the Virginia Water Protection Program,⁶ with a policy of no net loss of wetland acreage and function.⁷ And the Chesapeake Bay Preservation Act establishes buffer zones to help protect the integrity of wetlands from shoreline development.⁸ These buffers represent the wetlands of the future as sea levels rise. In the absence of federal involvement, it will be crucial for these state programs to effectively delineate and safeguard wetlands, including landward areas that can serve as areas for tidal wetland migration.

These efforts cannot be accomplished without a substantial boost in agency personnel and funding. Just four years ago, DEQ reported that compensating for reduced federal wetlands

protections would require additional funding to hire and train new personnel.⁹ In 2012, Virginia estimated that administering a wetlands permitting program as robust as the federal Clean Water Act Section 404 program would cost \$18 million up front to implement and \$3.4 million annually afterward.¹⁰ Clearly, the agencies that administer Virginia's wetlands programs — DEQ, VMRC, and local wetlands boards — will require far more resources than they currently have.

In light of the withdrawal of federal protections for wetlands due to the *Sackett* decision, it will be critical for Virginia to ward off any attempt to weaken its existing wetlands laws. Some of Virginia's most essential natural resources hang in the balance.

POLICY RECOMMENDATIONS

Preserve Virginia's existing "no net loss" approach to wetlands protection.

Increase funding for DEQ, VMRC, and local wetlands boards to enable the agencies to delineate wetlands, provide quality-control reviews of third-party delineations, and effectively implement wetlands permitting programs.

Maintain Virginia's ability to enact and implement wetlands protections that are more comprehensive than those under federal law.

Wading in the Water – Back Bay, Virginia Beach
Photo by Sue Mangan



LAND & WILDLIFE CONSERVATION

Conservation of Virginia's lands is crucial to protecting our natural resource base. Protected lands directly support clean water and air, healthy wildlife populations, beautiful views, food security, culture and history, a sense of place, and improved physical and mental health. Virginia's landscapes also help support the backbone of its economy: agriculture, forestry, and tourism. However, land conservation efforts are consistently under development pressure. There are many ways to help ensure landscapes are protected for their many benefits including expanding local food systems, conserving tree canopies, restoring and connecting terrestrial and aquatic habitats, and keeping cultural history and resources intact for future generations to appreciate.

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EXECUTIVE SUMMARIES & CONTACT INFORMATION

INVESTING IN VIRGINIA'S HERITAGE & FUTURE

Across Virginia's coast, piedmont, and mountains, we have a wealth of natural and cultural resources that are closely tied to the state's heritage and integral to its future. These resources are assets vital to the state's economic, social, and environmental health. Caring for these assets and ensuring they are accessible to every Virginian requires state investment in conservation. Thanks to forethought from past administrations and legislatures, Virginia has strong programs and tools. These mechanisms simply need sufficient, consistent, and dedicated funding to ensure Virginia's future generations have the kind of Commonwealth we want to leave to them.

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PRESERVING FARMLAND

Farmland provides varied and important benefits to all Virginians. Besides the direct food and fiber outputs that form the basis of Virginia's economy, Virginia farms maintain open space, mitigate flood risks, create jobs, support associated businesses, unite vibrant communities, sustain wildlife, and provide opportunities to restore clean water and sequester carbon. These benefits are not guaranteed. Retaining working farms for the future requires commitment and action from the government and citizens to preserve farmland, increase access to land ownership – particularly for marginalized communities, and encourage farming practices that benefit our shared natural resources.

Adam Schellhammer // Valley Conservation Council // Adam@valleyconservation.org
Kevin Tate // Alliance for the Shenandoah Valley // ktate@shenandoahalliance.org

PROTECTING HISTORIC & CULTURAL RESOURCES

From Chief Powhatan's capital, Werowocomoco, to American Revolution and Civil War battlefields, to Rosenwald schools and sites related to the struggle for Civil Rights, Virginia's unique and diverse array of historic and cultural resources tell the story of our Commonwealth and nation. Robust support for existing programs as well as exploration of broadening preservation tools available to protect these resources is critically important to ensure their benefit to current and future generations and supports key industries, including agriculture and tourism. We recognize that certain historic resources without proper context can be painful reminders of racial injustice and it is important that we support efforts to recontextualize these resources as appropriate.

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LAND CONSERVATION

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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INVESTING IN VIRGINIA'S HERITAGE & FUTURE

LAND CONSERVATION

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EXECUTIVE SUMMARY

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CHALLENGE

Now is the time to expand conservation efforts. Without conservation, we will lose the places that grow our food, ensure the quality of our drinking water supplies, preserve habitat for wildlife, sequester carbon, and provide healthy outdoor spaces for Virginia families.

Pantone Sunset –Montebello. Va
Photo by Lauren Kaufmann

Across the demographic spectrum, Virginians have a conservation ethic. However, recent state budget spending on natural resources, state parks, and recreation is less than one percent. The 2018 Virginia Outdoors Plan calls for additional funding.¹ The consequences of this lack of spending are real: lost opportunities to conserve more land and insufficient public access to lands that are already protected.

Virginia needs to fund existing and proven conservation mechanisms commensurate with demand and to match other sources of funding. Increasing state funding for conservation will leverage unprecedented federal dollars through the Great American Outdoors Act, the Inflation Reduction Act, and strong private-sector support for conservation. If state matching funds are not provided to unlock these federal dollars, Virginia will miss out.

Our conservation efforts must acknowledge historic and current disparities in the allocation of resources and the related impact on some segments of the population, most notably

native peoples and more broadly people of color. Addressing conservation needs and opportunities presents a vivid demonstration of a shared commitment to overcome past inequity, expand accessibility, and provide protection of our land and water resources important to all.

SOLUTION

More than 80% of land in Virginia is privately owned. Tools and funding are needed for landowners to conserve their land. Fortunately, the Commonwealth has effective land conservation programs already in place, but they must be funded robustly and consistently to meet the growing demands of our time:

LAND PRESERVATION TAX CREDIT (LPTC)

One of the most successful and progressive private land conservation programs in the country. It encourages voluntary land conservation by providing tax credits equal to 40% of the value of donated land or conservation easements.

VIRGINIA LAND CONSERVATION FOUNDATION (VLCF)

Provides state matching grants on a competitive basis for the protection of open spaces and parks, natural areas, historic areas, and farmland and forest preservation.

VIRGINIA FARMLAND PRESERVATION FUND

Provides matching funds to leverage significant local, federal, and private funding sources to protect the state's best farmland.

VIRGINIA BATTLEFIELD PRESERVATION FUND

Provides matching funds to leverage significant local, federal, and private funding sources to preserve historically-significant places.

BLACK, INDIGENOUS AND PEOPLE OF COLOR (BIPOC) HISTORIC PRESERVATION FUND

This new fund improves the preservation of BIPOC historic and cultural resources.

VIRGINIA OUTDOOR FOUNDATION'S GET OUTDOORS PROGRAM

An existing program that is much more accessible for small rural and urban localities and nonprofit organizations than Virginia's other grant programs.

These essential programs must be augmented by a permanent, dedicated source of revenue that serves the wide array of conservation needs and opportunities, from pocket parks to productive farmland. Programs that support urban conservation and underserved communities with a sustained source of reliable funds will also allow localities to better plan their outdoor recreation infrastructure investments with certainty that their needs will be met.

POLICY RECOMMENDATIONS

\$90 million per year to the LPTC. The entire 2% of the Transfer Fee should go to managing the LPTC and stewardship of protected land, no amount should be diverted to the General Fund.

\$30 million per year for the VLCF.

\$5 million per year for the Virginia Farmland Preservation Fund.

\$5 million per year for the Virginia Battlefield Preservation Fund.

\$5 million per year for the new Virginia BIPOC Historic Preservation Fund

\$5 million per year to extend Virginia Outdoors Foundation's Get Outdoors program (GO) throughout the Commonwealth.

Support additional staff at state agencies: VOF, DCR, DOF, DWR, and VDACS' Office of Farmland Preservation. Bolster professional resources available from the Office of the Attorney General and Department of General Services to ensure the effectiveness of conservation agencies.

PRESERVING FARMLAND

LAND CONSERVATION

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EXECUTIVE SUMMARY

Farmland provides varied and important benefits to all Virginians. Besides the direct food and fiber outputs that form the basis of Virginia's economy, Virginia farms maintain open space, mitigate flood risks, create jobs, support associated businesses, unite vibrant communities, sustain wildlife, and provide opportunities to restore clean water and sequester carbon. These benefits are not guaranteed. Retaining working farms for the future requires commitment and action from the government and citizens to preserve farmland, increase access to land ownership – particularly for marginalized communities, and encourage farming practices that benefit our shared natural resources.

CHALLENGE

Forty percent of Virginia's farmland is considered nationally significant - the category best suited for growing food. However, Virginia nationally ranks 7th for the most acres and 12th for the largest percent of agricultural land to be converted to non-agricultural uses in the US by 2040.¹ Losing productive farmland has an outsized economic impact on the state, as agriculture produced about 8.7% of the state's total economic output in 2021 and accounted for 381,844 jobs. About one of every 13 jobs in Virginia is tied to the agricultural industry.²

Purchase of Development Rights (PDR) programs are a tool for localities to protect highly productive and locally important farmland. Current funding for PDR programs is insufficient to meet demand

from localities. Matching fund requirements prevent localities, with limited financial resources and technical capacity, from participating in such programs. Local governments also lack the capacity to monitor and steward conservation easements that they hold. State law currently limits experienced, accredited nonprofit land trusts to the role of co-holders of conservation easements that are established with state funding. This creates an unnecessary burden for local governments and hinders land conservation.

AGRICULTURE PRODUCED 8.7% OF VIRGINIA'S TOTAL ECONOMIC OUTPUT AND ACCOUNTED FOR 381,844 JOBS

Additionally, current investment in innovation grants are insufficient to support thriving local agricultural networks. Farmland can capture and clean water, sequester carbon in healthy soils, provide wildlife habitat, and build generational wealth in marginalized populations when managed to do so. Policies and programs that encourage the adoption of sustainable farming practices that produce these co-benefits and increase market access for small farms and historically underserved farmers are crucial to ensure these benefits at the local and state scale.

SOLUTION

Protecting agricultural lands from conversion to non-agricultural uses ensures that Virginia keeps its strong agricultural foundation and maintains opportunities to meet other conservation goals.

The cost and administrative burden to localities of participating in PDR programs must be lowered. Programs to purchase easements could achieve more with adequate funding. Enhanced funding for the Virginia Land Conservation Foundation and the Farmland Preservation Fund will allow Virginia's state agencies, local jurisdictions, and private land trusts to tap significantly more Federal Agricultural Land Easement funding. A

\$5 million increase in the Farmland Protection Fund could generate an additional \$5 million in federal funding to achieve conservation outcomes. The lower price of farmland without development rights (because of involvement in PDR programs) can provide opportunities for historically underserved producers to access farmland.

Increasing the grant funding to develop local processing infrastructure and markets will increase the prosperity of farmers and their communities. Such investments will improve the ability for small and medium-scale farmers to create successful agricultural businesses, retain farmland, feed their communities, and implement the kinds of sustainable farming practices that maintain habitats, improve soils, clean water, and withstand severe weather events.

POLICY RECOMMENDATIONS

Lower locality's PDR match requirement to 25%.

Remove co-holding requirements for easements funded by the Virginia Land Conservation Foundation.

\$500,000 per year through the Office of Farmland Preservation to help localities develop PDR ordinances, advise on best zoning practices for preserving farmland, consider equity in ranking projects that get funded, and provide training and technical assistance to enhance monitoring and enforcement.

\$5 million per year for the VA Farmland Preservation Fund.

\$1 million per year for the Governor's Agriculture and Forestry Industry Development Fund infrastructure program.

Fall Panorama – Charlottesville

Photo by Cassidy Girvin



PROTECTING HISTORIC & CULTURAL RESOURCES

LAND CONSERVATION

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EXECUTIVE SUMMARY

From Chief Powhatan's capital, Werowocomoco, to American Revolution and Civil War battlefields, to Rosenwald schools and sites related to the struggle for Civil Rights, Virginia's unique and diverse array of historic and cultural resources tell the story of our Commonwealth and nation. Robust support for existing programs as well as exploration of broadening preservation tools available to protect these resources is critically important to ensure their benefit to current and future generations and supports key industries, including agriculture and tourism. We recognize that certain historic resources without proper context can be painful reminders of racial injustice and it is important that we support efforts to recontextualize these resources as appropriate.

CHALLENGE

The programs below are the essential tools of historic and cultural conservation in the Commonwealth. Strong support for these programs will continue Virginia's role as a leader in this space.

HISTORIC REHABILITATION TAX CREDIT (HRTC)

Urban and rural communities leverage this catalytic community redevelopment and economic development tool to adapt and reuse older structures. Economic studies¹ offer compelling data that construction and related activities associated with HRTC projects generate \$4.20 to \$5.30 of economic impact for every \$1.00 of tax credit.²

LAND CONSERVATION

The Virginia Land Conservation Fund (VLCF), the Virginia Battlefield Preservation Fund (VBPF), and the Land Preservation Tax Credit are the cornerstones of land conservation in Virginia. The VLCF funds a range of conservation projects in rural and urban areas. VBPF is targeted exclusively toward preserving historic battlefields. VBPF grants are often matched with

federal dollars from the National Park Service's American Battlefield Protection Program, resulting in the preservation of 693 acres in the last two years alone^{3,4}

HISTORIC REHABILITATION PROJECTS GENERATES UP TO \$5.30 FOR EVERY \$1.00 SPENT IN TAX CREDITS

AFRICAN AMERICAN AND INDIGENOUS RESOURCES

The creation of the new Virginia Black, Indigenous, and People of Color (BIPOC) Historic Preservation Fund offers opportunities for a more complete telling of Virginia history by preserving BIPOC sites that have been disproportionately marginalized in the past.⁵ Funding in 2024-26 should be maintained at \$10 million over the biennium budget.

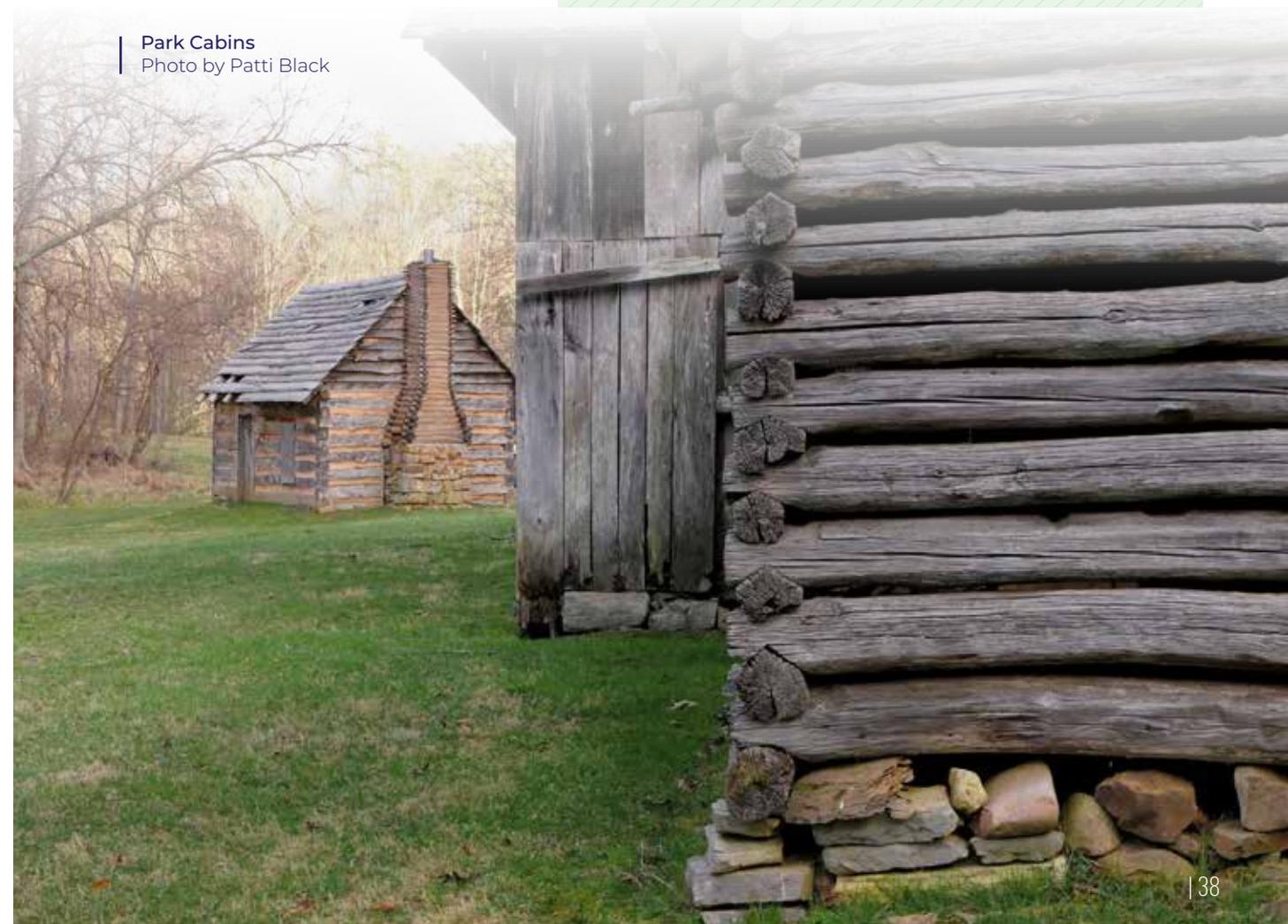
SOLUTION

The state has tremendous opportunities to advance the preservation of Virginia's historic and cultural resources by enhancing our existing programs and initiatives. Given the proven return on the Commonwealth's investment from the HRTC, and the economic impacts of the COVID-19 pandemic, we urge the state to protect and maintain the HRTC in order to help with the state's economic recovery, and to give particular consideration to HRTC projects with the potential to benefit under-represented communities.

On the land conservation front, fully funding both VLCF and VBPF is of critical importance to helping save Virginia's battlefields and other historic sites before they are lost to development. This year's increase in funding to VLCF is an important step forward, but even more can be done. With regard to African American and Virginia Indigenous resources, the recent emphasis that the General Assembly has placed on elevating under-told stories is encouraging. In particular, the creation of the

new Virginia Black, Indigenous, and People of Color Historic Preservation Fund offers opportunities for a more complete telling of Virginia's history by preserving BIPOC sites that have been disproportionately excluded in the past. Increased funding, recognition, and protection for these resources across the Commonwealth is essential.

Park Cabins
Photo by Patti Black



POLICY RECOMMENDATIONS

Maintain the Historic Rehabilitation Tax Credit program.

\$30 million per year for the VLCF and \$5 million per year for the Virginia Battlefield Preservation Fund.

Adjust the VLCF to be accessible for the preservation of sites that highlight Virginia's culturally diverse history.

\$5 million per year for the Virginia BIPOC Historic Preservation Fund.



EXECUTIVE SUMMARIES & CONTACT INFORMATION

INVESTING IN CONSERVATION & OUTDOOR RECREATION

Outdoor recreation connects people to the amazing landscapes and natural resources which make Virginia special. Investing in conservation and outdoor recreation is a priority but Virginia lacks a dedicated source of funding to support projects. Virginia should continue to prioritize conservation and outdoor recreation by commissioning a statewide study and workgroup to research dedicated funding mechanisms, so we can conserve land, protect water, and invest in public access infrastructure that makes outdoor recreation possible. Appointing a Director for the Office of Outdoor Recreation and conducting a study on the outdoor recreation economy will elevate outdoor recreation and associated benefits across the Commonwealth.

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Kyle Lawrence // Shenandoah Valley Bicycle Coalition // kyle@svbcoalition.org

STRENGTHENING PARK FUNDING

The history of parks in Virginia is rooted in the idea that people need access to public spaces outside of home, school, and work where they can recreate and develop as citizens. Shared public green spaces serve as the center of commerce, organization, and social interaction for community members. Parks are important places where people go to exercise, organize, recreate, and relax. Parks also give municipalities the opportunity to display their values through a shared public space and are vital to the fabric of many communities. Consistent funding for parks gives Virginians more opportunities to grow, and as a result, will make Virginia a more desirable place to live, play, and work.

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OUTDOOR RECREATION

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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INVESTING IN CONSERVATION & OUTDOOR RECREATION

OUTDOOR RECREATION

Elliot Caldwell // East Coast Greenway Alliance // elliott@greenway.org
Justin Doyle // James River Association // jdoyle@thejamesriver.org
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EXECUTIVE SUMMARY

Outdoor recreation connects people to the amazing landscapes and natural resources which make Virginia special. Investing in conservation and outdoor recreation is a priority but Virginia lacks a dedicated source of funding to support projects. Virginia should continue to prioritize conservation and outdoor recreation by commissioning a statewide study and workgroup to research dedicated funding mechanisms, so we can conserve land, protect water, and invest in public access infrastructure that makes outdoor recreation possible. Appointing a Director for the Office of Outdoor Recreation and conducting a study on the outdoor recreation economy will elevate outdoor recreation and associated benefits across the Commonwealth.

CHALLENGE

Virginia State Parks, Wildlife Management Areas, State Forests, Natural Area Preserves, statewide trail systems, and bodies of water are wonderful places for Virginians and visitors to connect to the outdoors. Outdoor recreation on public lands and waterways contributes to our high quality of life, employs 106,993 Virginians, and generates \$9.4 billion for our economy annually.¹ But for too many Virginians, public lands and waterways are inaccessible due to barriers including their distance from home and lack of inclusive facilities. Additionally, race and income play a role in determining the quality and size of parks and green spaces to which individuals have access in their communities. More affluent and predominantly White neighborhoods tend to have access to higher quality park systems with more acreage than those with larger low-income and Latino or Black populations.² Simply put, we need additional investment in conservation and outdoor recreation projects to ensure Virginians can access the outdoors and enjoy the benefits of outdoor recreation.

Existing conservation programs have been inconsistently funded and are not designed for

all conservation needs. The lack of dedicated funding to support conservation and outdoor recreation projects is a significant shortcoming as Virginia ranks near the bottom compared to other states' spending on natural resources.³

VIRGINIA RANKS NEAR THE BOTTOM COMPARED TO OTHER STATES' SPENDING ON NATURAL RESOURCES

SOLUTION

Virginia needs a dedicated source of funding for conservation and outdoor recreation projects to ensure residents and visitors, who bring dollars into our economy, can enjoy places that make our Commonwealth a special place to live and visit. Other states have adopted a variety of dedicated funding programs, the strongest of which were established through constitutional amendments or statutes. By establishing a stable, dedicated funding source for natural resources conservation and outdoor recreation, we can protect the land and water that make Virginia special and invest in public access infrastructure that facilitates outdoor recreation. Additionally, appointing a Director for the Office of Outdoor Recreation and studying the economic impact of outdoor recreation will expand the benefits of outdoor recreation and quantify them.

Furthermore, let's ensure resources are available to fund local parks, green spaces, and public access infrastructure projects by fully funding the Virginia Land Conservation Fund (VLCF). Doing so will increase funding available for community park and green space projects by including the Virginia Outdoors Foundation's Preservation Trust Fund and Get Outdoors grant programs. See additional policy paper recommendations to fund these programs in INVESTING IN VIRGINIA'S HERITAGE & FUTURE (pg 33), PROTECTING HISTORIC & CULTURAL RESOURCES (pg 37), STRENGTHENING PARK FUNDING (pg 43), and ENSURING CONSISTENT SUPPORT FOR TRAILS (pg 83).

POLICY RECOMMENDATIONS

Commission a statewide study and interagency workgroup to research dedicated funding mechanisms for natural resources and develop innovative funding strategies that meet the unique needs and challenges of the state. The workgroup would be supported by the Secretariat of Natural and Historic Resources.

Appoint a Director for the Office of Outdoor Recreation within the Secretariat of Natural and Historic Resources to coordinate across outdoor recreation programs in state agencies and partnerships to expand the benefits of outdoor recreation and enhance state competitiveness.

\$500,000 to be administered by the Virginia Tourism Corporation and Secretariat of Commerce and Trade to develop a scope of work and plan to study the economic impact and financial outcomes for outdoor recreation and related tourism as recommended by the current Virginia Outdoors Plan.⁴

"Fishing Reflected" – Norfolk, Va |
Photo by Sue Mangan



STRENGTHENING PARK FUNDING

OUTDOOR RECREATION

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EXECUTIVE SUMMARY

The history of parks in Virginia is rooted in the idea that people need access to public spaces outside of home, school, and work where they can recreate and develop as citizens. Shared public green spaces serve as the center of commerce, organization, and social interaction for community members. Parks are important places where people go to exercise, organize, recreate, and relax. Parks also give municipalities the opportunity to display their values through a shared public space and are vital to the fabric of many communities. Consistent funding for parks gives Virginians more opportunities to grow, and as a result, will make Virginia a more desirable place to live, play, and work.

CHALLENGE

State and local governments face competing priorities when making funding decisions. Budget constraints, lack of public awareness, inconsistent funding sources, and political priorities are all reasons that parks funding has been inconsistent. These funding inconsistencies have forced parks departments to defer maintenance and improvement projects, decrease public programming, and limit environmental conservation efforts.

FUNDING INCONSISTENCIES HAVE FORCED PARKS DEPARTMENTS TO DEFER MAINTENANCE AND IMPROVEMENT PROJECTS

Additionally, more affluent and predominantly White neighborhoods tend to have access to higher quality park systems with more acreage than those with larger low-income and Latinx or Black populations, which can lead to negative effects on health outcomes in these groups.² We must prioritize addressing inequitable access to parks, green spaces, and bodies of water in Virginia by identifying places where access is poor and making investments in new parks, green spaces, water access, and trails.

SOLUTION

Parks are essential components of healthy and thriving communities. The government of the Commonwealth should be used as a force multiplier to encourage our local communities to invest more in parks to ensure their preservation and development. Increased funding from the Commonwealth would enable parks departments to improve and maintain park facilities, enhance public programs, and protect more natural areas.

Increased maintenance and infrastructure funding will make parks more appealing to visitors. Based on a 2022 presentation from the Department of Conservation and Recreation (DCR), the agency has a maintenance backlog of over \$240 million.³ Well-maintained parks attract visitors and provide safe and accessible spaces for recreation and relaxation. Upgraded amenities such as playgrounds, trails, picnic areas, and sports fields drive tourism and contribute to economic growth.⁴ Additionally, access to the outdoors is not shared equitably because of many factors including race and different ability levels. Creating a statewide outdoor access equity model is the first step in determining where investments in parks are essential.

Increased funding for programming would also allow municipal park organizations to expand and enhance recreational opportunities for the citizens they serve. Parks play a vital role in providing opportunities for community engagement, social interaction, and cultural enrichment. Additional classes, workshops, events, and youth activities would be allowed to thrive if increased and consistent funding could be provided.

POLICY RECOMMENDATIONS

\$57M per year for the DCR's State Parks to support essential staffing, programs, and backlog of maintenance issues.

Create a statewide Outdoor Access Equity Model with stakeholder input through DCR.

\$5M per year to the Virginia Outdoors Foundation for Get Outdoors Grant Program to encourage outdoor recreation programming.

Establish a \$1M, 50-50 matching grant program to be facilitated by DCR to encourage localities to invest in capital improvement projects or invasive species management in local parks.

Kayakers on Lake – Beaver Creek Park, Va |
Photo by Cassidy Girvin





EXECUTIVE SUMMARIES & CONTACT INFORMATION

ASSESSING TREE CANOPY LOSS

Virginia continues to lose both intact forest and urban tree canopy at an alarming rate. Despite committing to expand tree canopy in its Phase III WIP, Virginia suffered a net loss of 9,548 acres between 2014-2018. Because canopy loss contributes to degraded waterways and Virginia's ability to protect its residents from the impacts of climate change, such as inland flooding and negative health consequences of urban heat islands, Virginia needs to assess where and why canopy is lost and then address the findings through a mix of state regulation, incentives, and education as we move towards becoming a no-net loss state.

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Ann Jurczyk // Chesapeake Bay Foundation // ajurczyk@cbf.org

CONNECTING WILDLIFE HABITATS

Wildlife must be able to move through our landscapes to acquire resources, find genetically diverse mates, and adapt to a changing climate. Roads, development, and other infrastructure can impede wildlife movement and create dangerous scenarios on our roadways for both wildlife and people. Virginia continues to build a network of connected landscapes and reduce human-wildlife conflict with the recent release of its Wildlife Corridor Action Plan (WCAP). However, funding and additional policy tools to empower our agencies to fast-track WCAP implementation are still needed to maintain and create resilient ecosystems in the Commonwealth.

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Erin Sito // Wildlands Network // e.sito@wildlandsnetwork.org
David Sligh // Wild Virginia // david@wildvirginia.org

ENSURING SUSTAINABLE FISHERIES

Our Bay fisheries are important both culturally and economically to the Commonwealth. Virginia's fisheries managers continue to struggle with managing and rebuilding fish populations, including species such as blue crab, river herring, American shad, striped bass, menhaden, and sturgeon. The growing prevalence of new land uses and the impacts from climate change necessitate prioritizing investment in better understanding the cumulative impacts of these changes on our iconic fisheries.

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Chris Moore // Chesapeake Bay Foundation // cmoore@cbf.org

ASSESSING TREE CANOPY LOSS

VIRGINIA'S FLORA & FAUNA

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Ann Jurczyk // Chesapeake Bay Foundation // ajurczyk@cbf.org

EXECUTIVE SUMMARY

Virginia continues to lose both intact forest and urban tree canopy at an alarming rate. Despite committing to expand tree canopy in its Phase III WIP, Virginia suffered a net loss of 9,548 acres between 2014-2018.¹ Because canopy loss contributes to degraded waterways and Virginia's ability to protect its residents from the impacts of climate change, such as inland flooding and negative health consequences of urban heat islands,² Virginia needs to assess where and why canopy is lost and then address the findings through a mix of state regulation, incentives, and education as we move towards becoming a no-net loss state.

CHALLENGE

It is easy to find examples of forested lands being cleared or an individual tree being removed, but understanding these losses in aggregate – how many acres are lost statewide and why – is more challenging. High-resolution land cover data became available for the Chesapeake Bay watershed states in 2020, which led to an understanding of the net change in forest and tree canopy by jurisdiction and forest transitions to other land covers and uses. But questions remain that, if answered, would drive Virginia to take steps to slow and eventually reverse the loss.

For example, how healthy are Virginia's forests? How many acres of canopy have been lost to emerald ash borer and where? Where do forest fragments exist (fragments are more susceptible to invasive species)? Which localities are being impacted by infrastructure projects such as road and energy right-of-way expansions? How is saltwater intrusion impacting coastal tree canopy? How are infill development and exurban sprawl reducing the number of mature trees in neighborhoods? Where are homeowners removing healthy trees and why? How can we be sure tree canopy is equitably distributed?³

Virginia needs a baseline understanding of its forest and urban tree canopy and a tree canopy analysis at a local scale that provides context for the loss, the "why."

SOLUTION

The high-resolution land cover data shows land use changes between 2014 and 2018, illustrating how many acres changed from forest to impervious surface for instance.³ An updated land cover dataset⁴ will be released in early 2024, showing land use changes between 2018-2022. We anticipate seeing that canopy loss has accelerated since 2018 due to increased development activities, road expansion, energy infrastructure expansions, disease, and homeowner removal. As soon as new data is available, completing an updated technical assessment of Virginia's tree canopy will build awareness and understanding of Virginia's tree canopy loss so that legislators, homeowners, local government planners, and elected leaders can take steps to address and hopefully reverse the trend.

This assessment will also help local governments establish the need for additional authority to better manage their tree canopy, such as establishing a tree fund and setting a floor on tree canopy replacement percentages when land is developed at no less than amounts in current code.

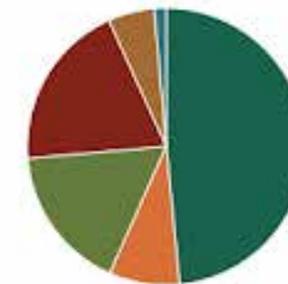
Not understanding the pace and drivers of loss contributes to a lack of urgency to find funding, program, and policy solutions to address it. Since it takes decades for newly planted trees to provide the carbon reduction, water and air quality, and wildlife benefits of mature trees, time is of the essence. For the state to achieve no net loss, we will need to adopt measures that protect existing canopy and replace what cannot be preserved.

Tree Cover Status & Change

FOR HENRICO COUNTY, VA



What is the land use/land cover breakdown in your county?
151,078 ACRES OF LAND AREA IN HENRICO COUNTY



1. Tree cover includes all trees occurring on all land uses, such as individual trees found over turf, impervious, agricultural, wetlands, or other lands. It also includes areas of "forest," defined in the dataset as patches of tree cover 1 acre or greater, with a minimum patch width of 330 feet.
2. Other includes a variety of non-wooded land uses not captured in the main pie chart categories. See the Data Guide for detailed definitions of "other" and all the land use categories.

Land use/land cover statistics were generated based on 2018 imagery using the 2022 edition of the Chesapeake Bay Land Use and Land Cover Database.

Where does tree cover occur in your county?



What are some benefits of tree cover in your county?



Calculated based on 2018 tree cover data using [forestcarbon.beat.org](https://www.forestcarbon.beat.org/)

POLICY RECOMMENDATIONS

\$500,000 for DOF to fund a statewide tree canopy and forest health assessment using the high-resolution 2018-2022 dataset to determine the drivers of forest and urban tree canopy loss, including disease, infrastructure (road widening and linear energy corridors), in-fill and greenfield development, saltwater intrusion, and homeowner removal.

CONNECTING WILDLIFE HABITATS

VIRGINIA'S FLORA & FAUNA

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EXECUTIVE SUMMARY

Wildlife must be able to move through our landscapes to acquire resources, find genetically diverse mates, and adapt to a changing climate. Roads, development, and other infrastructure can impede wildlife movement and create dangerous scenarios on our roadways for both wildlife and people. Virginia continues to build a network of connected landscapes and reduce human-wildlife conflict with the recent release of its Wildlife Corridor Action Plan (WCAP).¹ However, funding and additional policy tools to empower our agencies to fast-track WCAP implementation are still needed to maintain and create resilient ecosystems in the Commonwealth.

CHALLENGE

Locations where infrastructure cuts through wildlife habitat and where roads and streams intersect – “stream crossings” – present barriers

to wildlife movement and fragment habitat. For terrestrial wildlife, this can result in fatal wildlife-vehicle collisions with far-reaching consequences of biodiversity loss and disruption of delicate ecosystems. In some cases, wildlife-vehicle collisions result in severe injuries or fatalities for drivers and passengers. Virginia experiences a high number of these collisions each year. We are considered a “high-risk state” for deer-vehicle collisions, “with more than 60,000 incidents per year according to insurance claims estimates.”² This includes 10,000 serious human injuries and 200 fatalities each year.³ Deer collisions are also becoming more expensive, with the most recent national estimates costing almost \$20,000 per collision.⁴

VIRGINIA IS A “HIGH-RISK STATE” FOR DEER-VEHICLE COLLISIONS WITH MORE THAN 60,000 INCIDENTS PER YEAR

For aquatic wildlife, stream crossings are a leading cause of habitat fragmentation – particularly when culverts are undersized. According to the North Atlantic Aquatic Connectivity Collaborative database, of nearly 2,500 stream crossings assessed throughout Virginia from 2015 to 2023, 57% posed a barrier to fish passage. Specifically, 1,377 stream crossings, out of the 2,418 assessed, posed either a minor barrier, moderate barrier, significant barrier, or severe barrier.⁵

Recognizing the far-reaching severity of Virginia’s habitat fragmentation issues, the Virginia Department of Wildlife Resources, Virginia Department of Conservation and Recreation, Virginia Department of Transportation (VDOT), and the Virginia Department of Forestry recently released its WCAP highlighting several potential strategies and opportunities to further study and mitigate wildlife-vehicle conflicts and improve habitat connectivity for terrestrial and aquatic species.

SOLUTION

Fortunately, creating various types of wildlife crossings can improve habitat connectivity, motorist safety, and the flood-resilience of infrastructure. Wildlife crossings have already proven themselves an effective solution in Virginia. A Virginia Transportation Research Council study monitored wildlife-vehicle collisions before and after the agency erected directional fencing intended to funnel deer to culverts. Deer-vehicle collisions in the area fell by an average of 92% after the fencing was installed.⁶ While wildlife overpasses are what the general public usually envision when they think of a crossing, wildlife underpasses through large culverts and beneath bridges can often provide a less expensive and equally effective solution, as is evidenced by this example.

At stream crossings specifically, culvert enlargement projects can include affordable dry passage features, making the projects beneficial

for both aquatic and terrestrial wildlife species. Moreover, enlarged culverts accommodate more water flow, which increases infrastructure resiliency during flood events, and results in less long-term maintenance costs. As a result, improving culvert crossings can increase habitat connectivity, public safety, and climate resiliency benefits for the Commonwealth.

To achieve these mutual benefits, Virginia should adopt policies that require agencies to include wildlife passage features when pursuing bridge or culvert improvement projects in known connectivity hotspots. VDOT has already recommended that bridge designs should accommodate a 20% increase in rainfall intensity and 25% increase in discharge to account for future climate change impacts.⁷ Additionally including wildlife crossing infrastructure standards into Virginia’s culvert and bridge design standards would simultaneously increase the environmental and public safety benefits provided by these projects. At a minimum, wildlife crossing infrastructure features should be required in the above construction projects that take place in Virginia’s priority connectivity areas identified in its WCAP.

POLICY RECOMMENDATIONS

Create a Wildlife Corridor Grant Fund and appropriate \$5M to it over the biennium to attract additional private investments to that fund and help leverage the many new and expanded federal funding grants currently available to VDOT and the DWR for funnel fencing, culvert improvements, and other wildlife crossing and passage infrastructure projects.

Create a regulatory framework that requires VDOT to include wildlife passage features in known connectivity hotspots whenever bridge or culvert improvement projects are planned.



Black Bear (*Ursus americanus*)
Photo by Somalinga Vijayakumar

ENSURING SUSTAINABLE FISHERIES

VIRGINIA'S FLORA & FAUNA

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EXECUTIVE SUMMARY

Our Bay fisheries are important both culturally and economically to the Commonwealth. Virginia's fisheries managers continue to struggle with managing and rebuilding fish populations, including species such as blue crab, river herring, American shad, striped bass, menhaden, and sturgeon. The growing prevalence of new land uses and the impacts from climate change necessitate prioritizing investment in better understanding the cumulative impacts of these changes on our iconic fisheries.

CHALLENGE

Data from the 2022 estimate of blue crab abundance¹ indicated the lowest numbers of blue crabs since the start of the winter dredge survey in 1989. Fortunately, this past year's data showed modest improvement in all sectors of the population.² However, numerous questions remain about the long-term health of the population, leading to the commencement of a new stock assessment which kicked off in the fall of 2022.

RECENT DATA INDICATED THE LOWEST NUMBERS OF BLUE CRABS SINCE 1989

An ongoing concern in the blue crab fishery has been the excess amount of crabbing gear being utilized to catch blue crabs, which lowers the catch per unit effort for watermen and increases the likelihood of lost gear. In order to help reduce this problem, a crab pot tagging program should be implemented in order to help ensure a more appropriate amount of gear is deployed by the fishery and aid the Virginia Marine Resources Commission (VMRC) in the management of the fishery.

Fishery managers, recreational anglers, conservation interests, and researchers have long raised concerns about the amount of menhaden

harvest in the Chesapeake Bay region. In addition, the fishery has been plagued in recent years by a quota exceedance, numerous fish spills that have washed up on area beaches, and the bycatch of highly managed species such as red drum.

Unfortunately, improved menhaden fishery management continues to be sidelined by a lack of data specific to the population of menhaden in the Chesapeake Bay. Current data is needed to better gauge the impacts that are taking place from climate change and the menhaden reduction fishery. Now is the time for Virginia to implement a comprehensive menhaden science program to ensure enhanced menhaden management in the future.

Virginia's fishery managers currently have little control over surface water withdrawals that kill billions of fish, shellfish, eggs, and larvae each year through impingement (organisms being pinned against mesh screens because of strong withdrawal velocity) or entrainment (organisms that go through a facility's water system because mesh size is too large). This chronic mortality threat is seldom subjected to independent monitoring and withdrawals and/or withdrawal rates are rarely limited during ecologically important times such as peak spawning season. Such withdrawals are becoming more common and are happening without the appropriate study of cumulative impacts on these natural resources in our river systems.

SOLUTION

The General Assembly should appropriate the necessary funds to implement a pilot crab pot tagging program for three years. This will allow VMRC to gauge the effectiveness of such a program in protecting the blue crab resource by easing the enforceability of management measures for the fishery and the feasibility of adopting such a program on a long-term basis.

Through SB 1388, the 2023 Virginia General Assembly tasked the Virginia Institute of Marine Science (VIMS) with developing plans for studying a host of important issues related to the ecology and economic impact of menhaden to the Commonwealth. After reviewing the outcomes of this work and continued dialogue with stakeholders, the General Assembly should direct VIMS and its appropriate partners such as the Atlantic States Marine Fisheries Commission, to begin this work and ensure appropriate funding of these efforts in order to ensure their timely completion.

Virginia must evaluate the cumulative impacts of all existing and proposed permitted and non-permitted surface water withdrawal intakes on the mortality of fish larvae and eggs. Due to the host of permitting and fisheries questions that must be answered, the General Assembly should instruct the Virginia Department of Environmental Quality and VIMS to appropriately study the cumulative impacts from these projects in order to appropriately inform permitting decisions.

Tiny Oyster – Carters Creek, Va
Photo Jennifer Sagan



POLICY RECOMMENDATIONS

Fund a 3-year pilot program from the General Fund for crab pot tagging.

Direct DEQ to promptly enforce federal regulations implementing § 316(b) of the Clean Water Act for cooling water intakes at power plants to reduce impacts on fish populations.

Allocate funds to VIMS necessary to complete a comprehensive menhaden stock assessment in partnership with other Chesapeake Bay region management bodies and menhaden scientists.

Fund a study through the Virginia DEQ and VIMS on the cumulative impacts of existing and proposed permitted and non-permitted surface water withdrawal intakes in the Rappahannock, York, and James River Systems on the mortality of fish larvae and eggs. Use the results to inform permitting decisions.



LAND USE & TRANSPORTATION

Transportation represents the largest source of carbon pollution in Virginia. Whether the issue is air pollution, polluted water runoff, or the loss of natural landscapes to development, the ways in which we build and connect our communities are often part of the problem. In order to save our lungs and the planet, we need a rapid shift to a cleaner, more accessible, and more equitable transportation system. Thoughtfully building out denser, transit-oriented communities is the first step to reducing our vehicle miles traveled and carbon emissions. Electrifying our vehicle fleet and our buildings will support the transition to zero-carbon transportation. To protect our communities Virginia must expand our underfunded public transit systems, increase Virginia’s rail capacity, and invest in transit-oriented communities.

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EXECUTIVE SUMMARIES & CONTACT INFORMATION

MITIGATING DATA CENTER DEVELOPMENT'S IMPACTS

Virginia is home to the largest concentration of data centers in the world, widely cited as hosting 70% of global internet traffic. This massive industry is continuing to grow very fast, requiring huge amounts of energy, land, and water to operate, resulting in widespread community impacts. Yet, the Commonwealth does not currently have any regulatory oversight of data center development and localities continue to approve more facilities without considering the cumulative impacts. This explosive growth of data centers threatens to derail state efforts to meet climate goals, improve air and water quality, advance land conservation, and protect national and state parks.

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DEPLOYING UTILITY-SCALE SOLAR RESPONSIBLY

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.

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UNLEASHING SUSTAINABLE HOUSING GROWTH

Where we live and how we get around drives a significant share of carbon emissions. Changing housing policies to allow for density, affordable housing, and mixed-use in developed areas lowers transportation and building emissions, reduces sprawl, preserves rural areas' farmlands and forests, and helps ensure low- and moderate-income families don't bear the burden of increased housing and transportation costs. Smart policy can encourage smart growth with affordable housing across the Commonwealth to improve Virginians' quality of life and drive economic growth, while simultaneously helping to reach sustainability, environmental justice, and equity goals.

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MITIGATING DATA CENTER DEVELOPMENT'S IMPACTS

LAND USE REFORM

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EXECUTIVE SUMMARY

Virginia is home to the largest concentration of data centers in the world, widely cited as hosting 70% of global internet traffic.¹ This massive industry is continuing to grow very fast, requiring huge amounts of energy, land, and water to operate, resulting in widespread community impacts. Yet, the Commonwealth does not currently have any regulatory oversight of data center development and localities continue to approve more facilities without considering the cumulative impacts. This explosive growth of data centers threatens to derail state efforts to meet climate goals, improve air and water quality, advance land conservation, and protect national and state parks.

CHALLENGE

Data center development in Virginia has been accelerating for years with the hub in Northern Virginia known as the largest in the world. Recently that demand has exploded throughout the state, with buildings larger than big box stores and as tall as 90 feet on sprawling campuses. Developments are now being proposed in environmentally sensitive areas next to our national, state, and local parks,² in close proximity to our rivers and streams,³ and in rural areas requiring costly new electrical infrastructure.⁴ Others are adjacent to residential neighborhoods, schools, medical facilities, and nursing homes.

THE GIGANTIC FOOTPRINT OF THE DATA CENTER INDUSTRY THREATENS REGIONAL POWER, LAND CONSERVATION, AND AIR & WATER QUALITY

The footprint of this industry is gigantic and threatens regional power supply, water quality, land conservation, and air quality beyond individual localities reviewing the application. A single data center building now uses between 60-90MW of power at peak demand which is more than 15,000 households⁵. Data centers now make up 21% of Dominion Energy Virginia's

power load⁷ (see SURGING ENERGY DEMAND FROM DATA CENTERS, pg 105). A data center can also consume 3-5 million gallons of water a day for cooling – the equivalent of a small city's overall annual consumption.⁸ They consume massive amounts of land as well. Digital Gateway, a proposal in Prince William County, would allow 27 million square feet of data center development which is the equivalent of about 150 Wal-Mart Supercenters. All of this impervious surface results in increased stormwater runoff and pollution.

To ensure uninterrupted 24/7 service, data center facilities have commercial-sized backup power generators and large fuel tanks on site in the case of a grid outage. According to DEQ, data centers in Loudoun County have air permits for more than 4,000 backup diesel generators⁹ with a total rated capacity of over 11 gigawatts of power! For context, the North Anna nuclear power facility has a rated capacity of 1.8 gigawatts. If the rapid pace of data center construction continues, further straining power, these backup generators could increasingly be put to use, putting air quality and public health at risk.¹⁰

SOLUTION

Despite Virginia having the highest number of data centers in the world, the state lacks critical information about their impacts on our environment and energy grid. Currently, approvals are made unilaterally by localities, which have a strong tax incentive to approve proposals without considering the broader statewide impacts. A comprehensive study of the impacts on the Commonwealth's electrical grid, environment, historic and recreational resources, environmental justice concerns, and ability to meet climate goals is critically needed to protect our communities especially those residents most vulnerable to utility rate hikes, air pollution, and climate impacts.

The National Academies of Science is an independent academic institution with the

ability to lead this study and provide objective advice to inform policy as they have done on past issues such as gold mining and uranium mining. Using data from utilities, localities, and state agencies, the study would include a buildout analysis of what is in operation, approved, and planned and an evaluation of impacts on the electrical grid and ratepayers, climate goals, water consumption, water quality, air quality, land conservation, recreation, and historic preservation.

The General Assembly must also establish a process for state review, including a grid impact statement submitted to Virginia Energy for all new data center power demand requests and a regional review of impacts from new data center proposals by federal and state agencies and regional utilities. Virginia Energy review would provide oversight to ensure continued grid reliability and prevent excessively high costs falling to the ratepayers. The regional review would provide an opportunity for these entities

to comment on regional impacts and for the public to weigh in on this additional information through a formal comment process.

Collectively, the study and the grid impact and regional review process will help the state determine where we are and create a sustainable path forward on data center development.

POLICY RECOMMENDATIONS

Study the impacts of data center development on the Commonwealth's electrical grid, environment, historic and recreational resources, and ability to meet climate goals through The National Academies of Science.

Require a grid impact statement be submitted to and approved by the State Corporation Commission for all new data center power demand requests.

Create a framework for a regional review board that evaluates large data center projects.

One of six Amazon data center buildings that sit in front of Ashby Ponds senior living retirement community in Loudoun County. The buildings hold a total of 110 diesel generators.

Photo by Hugh Kenny, Piedmont Environmental Council



DEPLOYING UTILITY-SCALE SOLAR RESPONSIBLY

LAND USE REFORM

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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.

Responsible deployment of utility-scale solar includes incorporating BMPs – Mt. Jackson, Va
Photo by Nancy Sorrells



UNLEASHING SUSTAINABLE HOUSING GROWTH

LAND USE REFORM

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EXECUTIVE SUMMARY

Where we live and how we get around drives a significant share of carbon emissions. Changing housing policies to allow for density, affordable housing, and mixed-use in developed areas lowers transportation and building emissions, reduces sprawl, preserves rural areas' farmlands and forests, and helps ensure low- and moderate-income families don't bear the burden of increased housing and transportation costs. Smart policy can encourage smart growth with affordable housing across the Commonwealth to improve Virginians' quality of life and drive economic growth, while simultaneously helping to reach sustainability, environmental justice, and equity goals.

CHALLENGE

The current landscape of local housing creation revolves around car-centered development, which limits the housing we build, and its character, and increases costs for Virginians. By zoning primarily for single-family homes, local governments in essence require residents to rely on automotive transportation to conduct their daily business. A drive is required to go to school, to work, to the grocery store, and to visit family and friends. The American Automobile Association found the annual average cost of car ownership is now over \$10,000 a year in 2022.¹ Land use policies that prioritize car-oriented development and transportation create long commutes for residents, generating traffic congestion, and worse health outcomes, particularly for urban communities of color.² Lowering vehicle miles traveled is necessary to meet our net-zero carbon emission goals.³

Furthermore, these policies constrict the number and form of homes that can legally be built. Sprawl not only drives up the cost of housing because it generates fewer and more expensive homes (due to higher land and materials costs), but single-family homes produce more carbon

emissions because they require more energy to heat, cool, and deliver services. Analysis of carbon emissions clearly shows the areas that permit denser housing have lower emissions.⁴ Sprawl-driven development also reduces tree canopy and green space opportunities for residents, as more land is parceled for development.

Current land use policies cut into Virginians' budgets by raising the cost of living and making it difficult to meet sustainability goals. This car-centered development increases our transportation emissions and places a heavy burden on middle-income families. Other zoning provisions like large lot sizes and setbacks, parking mandates, and floor area ratio regulations artificially restrict the housing availability and thus access to areas with already existing transit infrastructure. Building denser housing closer to jobs, schools, and services is a critically underleveraged climate policy tool to address transportation and building sector emissions, which make up over 40% of national emissions.⁵ Doing so in an equitable way, including ensuring the provision of sufficient affordable housing for low- and middle-income Virginians, is also a key part of environmental justice.

SOLUTION

Legalizing and encouraging denser housing, also known as "missing middle housing," in existing urban and suburban areas helps remediate the environmental and financial costs associated with sprawling development. Missing middle refers to housing types that have density levels in between single-family homes and large apartment complexes, such as townhomes, four-plexes, six- and eight-plexes. This kind of "gentle density" is an excellent opportunity to build vibrant and socioeconomically diverse communities, tackle sustainability goals, and address the housing shortage.

Missing middle housing allows for the diversification of housing types, enabling

communities to address the housing shortage by adding supply at various price points. Added supply places downward pressure on home prices, allowing for economic growth as residents will have more money to spend in their local, state, and global economies. Gentle density allows for development to utilize and benefit from non-automotive transportation types – such as rail, bus, and micro-transit – moving communities away from car-oriented sprawl and ultimately, lowering the carbon footprint required to live, work, and play. In addition, centering growth around urban cores including Virginia's cities, small towns, and village centers, serves to protect communities' rural character.

By definition, subdivisions with large lots require more land, destroying ecosystems and green space. Concentrating home construction in smaller geographical footprints preserves Virginia's natural resources while improving air and water quality. That said, creating greenspace and providing tree canopy helps prevent urban heat islands, reduces cooling costs, and aids with stormwater runoff. Density necessitates intentional design that allows for tree coverage and contiguous tree canopy, particularly along streets, sidewalks, and other public spaces.

Finally, providing resources for affordable housing construction and preservation will help ensure that the climate transition is conducted equitably and for the benefit of all, particularly low-income Virginians.

POLICY RECOMMENDATIONS

Incentivize local governments to zone for multi-family housing and eliminate parking minimums within a half mile of all bus rapid transit, light-rail, and Metro routes in Virginia; include a grant-based incentive program to automatically upzone such areas administered by DHCD.

Legalize the by-right development of accessory dwelling units in urban and suburban localities.

Reform building codes under the DHCD to allow for single staircases for buildings up to 6 stories to reduce the cost of building more housing while maintaining safety standards.

\$90.1M for a statewide housing voucher pilot program for low-income Virginia tenants. Furthermore, grant all localities permission to adopt mandatory affordable dwelling unit ordinances.

Colorful "Missing Middle" housing in Richmond, VA
Photo by Wyatt Gordon





EXECUTIVE SUMMARIES & CONTACT INFORMATION

ACCELERATING TRANSPORTATION ELECTRIFICATION

Over half of Virginia's carbon dioxide emissions – and numerous other air pollutants – come from the transportation sector, causing immediate health problems on top of exacerbating climate change which disproportionately impacts low-income and communities of color. While Virginia has taken steps to address this by phasing electric cars into the new vehicle stock, funding should be set aside to offset upfront costs and increase access to charging infrastructure in order to bridge any accessibility and affordability gaps. Taken together, these policies can improve the health and wellness of Virginians while eliminating the bulk of Virginia's carbon emissions.

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MAKING BUILDINGS CLEANER & SAFER

While the General Assembly has done considerable work to decarbonize the electricity and transportation sectors, little has been done to address the residential and commercial building sector, which contributes 36% of Virginia's climate emissions. Gas-powered space and water heating in Virginia's buildings lead to harmful indoor methane combustion, causing significant climate, community safety, and public health impacts. To ensure the success of Virginia's existing climate policies and remove fossil fuel combustion from our buildings, Virginia should incorporate our clean energy transition into its building policies by pursuing updated performance standards, amplifying federal funding opportunities to modernize existing building infrastructure, and protecting existing local authority to electrify new building construction.

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ACCELERATING TRANSPORTATION ELECTRIFICATION

ELECTRIFICATION

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EXECUTIVE SUMMARY

About half of Virginia's carbon dioxide emissions – and numerous other air pollutants – come from the transportation sector, causing immediate health problems on top of exacerbating climate change which disproportionately impacts low-income and communities of color. While Virginia has taken steps to address this by phasing electric cars into the new vehicle stock, funding should be set aside to offset upfront costs and increase access to charging infrastructure in order to bridge any accessibility and affordability gaps. Taken together, these policies can improve the health and wellness of Virginians while eliminating the bulk of Virginia's carbon emissions.

CHALLENGE

The transportation sector accounts for 51% of Virginia's carbon dioxide emissions, and is a major source of other air pollutants, leading to negative climate, public health, and economic impacts.¹ These emissions disproportionately affect low-income populations and communities of color who breathe 66% more vehicular air pollution than white residents on average. Vehicular particulate matter (PM2.5) alone accounts for 92 deaths, 2,600 cases of exacerbated asthma, and 10,000 lost workdays in Virginia each year.³ When considering transportation emissions in their entirety, these emissions led to 1300 premature deaths in Virginia in 2016, and the deaths associated with this pollution are 61% higher in low-income and older communities, along with communities of color.^{4,5}

VEHICLE POLLUTION ACCOUNTS FOR 92 DEATHS, 2,600 CASES OF ASTHMA, AND 10,000 LOST WORKDAYS IN VIRGINIA EACH YEAR

To comprehensively address vehicle pollution, cleaner transportation alternatives such as transit and rail need to be expanded. Virginia must also reduce vehicle miles traveled by incentivizing and pursuing thoughtful land use planning (see

MODERNIZING PUBLIC TRANSIT, pg 73 SAVING PEDESTRIAN LIVES, pg 79, and INCREASING ACCESS TO BIKING, pg 81). Simultaneously, we must accelerate transportation electrification to eliminate emissions from the remaining trips.

While electric cars and buses are far cheaper to own and maintain in the long run, higher upfront costs keep these savings out of reach for many Virginians.^{6,7,8} Furthermore, many households lack access to reliable charging infrastructure. Roughly 50% of US households don't park within 20 feet of an electrical outlet, making access to public EV charging and multifamily-housing EV charging essential for widespread adoption.⁹ Bridging these affordability and accessibility gaps is critical to ensuring a successful and equitable transition to electrified mobility.

SOLUTION

Every electric vehicle (EV) that replaces a gas-powered model helps clean Virginia's air, supports the Commonwealth's climate goals, and drives statewide economic development. When powered by Virginia's current electricity mix, EVs produce 83% fewer emissions than gas-powered vehicles,¹⁰ resulting in positive health outcomes. Real-world test cases have linked EV adoption to reductions in asthma rates and air pollution.¹¹

Virginia's growing clean vehicle sector already supports 6,800 jobs, and the Inflation Reduction Act is providing once-in-a-generation investment in the domestic EV supply chain through tax credits for EV and battery manufacturing facilities.¹² American jobs in the hybrid and EV manufacturing supply chain sector grew an astonishing 25% from 2021 to 2022.¹³

By adopting Advanced Clean Cars standards, the General Assembly ensured the best selection of in-demand EVs will be available to Virginia consumers and sent market signals that encourage charging companies to invest in Virginia.

Virginia has already created an equitable on-the-hood EV rebate structure. Funded adequately, that rebate would complement federal tax credits – lowering the purchase price for new and used EVs and putting electric mobility within reach for more Virginians.¹⁴

With more than 100 EV models available by 2025,¹⁵ the shift to electric vehicles is coming fast. The federal government has allocated significant funding to build out charging infrastructure along major travel corridors — including \$106 million in formula funding for Virginia along with additional competitive grant opportunities.¹⁶ Now Virginia must lead at the state level by making necessary investments in charging infrastructure and on-the-hood incentives to ensure Virginians who live in multifamily buildings and rural communities won't be left behind.

POLICY RECOMMENDATIONS

Maintain and advance Virginia's Clean Car Standards, which go into effect in 2024.

Allocate \$40M each year for the existing but unfunded EV Rebate Program to bring down the up-front cost of EVs at the point of sale.

Create a dedicated source of funding for charging infrastructure in rural and low-income localities to support ongoing tourism to scenic and rural areas.

Establish a fund of 200K each year to cover the cost of low-to-moderate-income electricians to take the Electric Vehicle Infrastructure Training Program.



Electric vehicle charging at a state park
Photo by Daniel White, The Nature Conservancy

MAKING BUILDINGS CLEANER & SAFER

ELECTRIFICATION

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EXECUTIVE SUMMARY

While the General Assembly has done considerable work to decarbonize the electricity and transportation sectors, little has been done to address the residential and commercial building sector, which contributes 36% of Virginia's climate emissions.¹ Gas-powered space and water heating in Virginia's buildings lead to harmful indoor methane combustion, causing significant climate, community safety, and public health impacts. To ensure the success of Virginia's existing climate policies and remove fossil fuel combustion from our buildings, Virginia should incorporate our clean energy transition into its building policies by pursuing updated performance standards, amplifying federal funding opportunities to modernize existing building infrastructure, and protecting existing local authority to electrify new building construction.

CHALLENGE

Although Virginia has begun its decarbonization journey in earnest in the electric and transportation sectors, little has been done to address the next frontier for climate action: buildings. Buildings sit at the nexus of climate, land use, and public health. Commercial and residential buildings make up nearly 36% of Virginia's emissions.²

OVER 12% OF CHILDHOOD ASTHMA CASES ARE DIRECTLY CAUSED BY INDOOR METHANE GAS COMBUSTION

But the combustion of methane gas in buildings is far more than a climate problem. Methane is highly flammable and volatile, with considerable risk of fires and explosions. Explosions, often deadly, occur nearly every year in Virginia, including most recently in Bristol.³ While explosions happen unpredictably in gas-powered buildings, methane gas combustion has a deleterious effect on public health. Methane combustion creates nitrous dioxide, a respiratory

irritant which significantly exacerbates the risk of asthma, particularly for children. Recent studies show that over 12% of childhood asthma cases are directly caused by indoor methane gas combustion.⁴ The risk is greater in poorly ventilated homes, meaning that low-income households are at greater risk, contributing to disproportionate rates of asthma in low-income families.⁵

Finally, the soaring price of methane gas, partially attributable to the war in Ukraine, is evidence of a pressing need to move away from a fuel source whose cost is so heavily influenced by unpredictable geopolitical factors. Virginians across the Commonwealth saw "fuel factor" charges add over \$35 per month to household energy bills.⁶ These unexpected and exorbitant costs are untenable for Virginia's families. Virginians deserve the opportunity to get volatile, explosive, toxic methane gas out of our homes.

SOLUTION

The imperative to shift away from methane gas in buildings demands a complementary approach that focuses on bold building performance standards and protecting local authority to electrify new building construction, all while helping modernize existing building infrastructure.

First, Virginia should require the adoption of building efficiency standards at least as stringent as the latest IECC as promulgated by the International Code Council (ICC). Legislation enacted in 2021 calls for that result when such standards provide savings and other benefits over time that exceed the incremental cost of construction. However, Virginia's Board of Housing and Community Development (BHCD) has failed to implement the law as written despite independent findings that building occupants and the public would save money and incur other benefits, including pollution reduction, every year. High building efficiency standards are critical since buildings will be used for 50-100

years and retrofitting is far more expensive than initial construction.

Second, localities' existing authority to meet health and safety goals through ordinances for electric-only new construction must be maintained, and localities should be allowed to adopt codes with stronger energy efficiency and climate standards.

To facilitate the transition for existing buildings, the Commonwealth should take advantage of the numerous new federal funding opportunities available to help Virginians electrify their homes – including HVACs, stoves, and water heaters. Virginia can accelerate the uptake of these incentives by providing technical guidance and public education programs, particularly targeted towards low-income households disproportionately impacted by the health effects of indoor methane combustion. Moreover, public awareness campaigns, particularly with institutionally underserved low-income, BIPOC, and/or rural communities, should be conducted to highlight the benefits of transition not just from the climate perspective, but also its impact on community safety, public health, and affordability. A strong focus on education and outreach can help to overcome resistance to change and ensure widespread adoption.

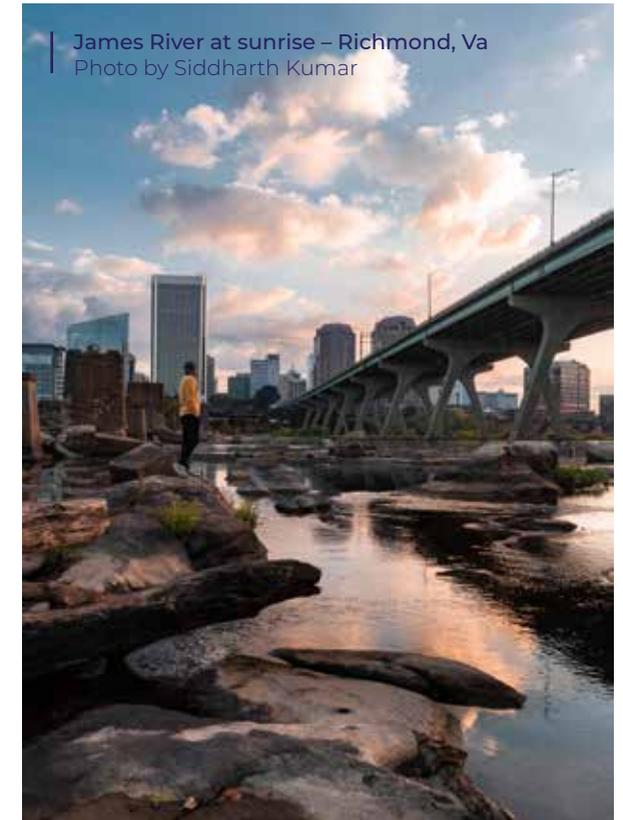
POLICY RECOMMENDATIONS

Implement or exceed the most current building performance standards, as defined by the International Code Commission, for both new residential and commercial structures.

Maintain localities' authority to meet health and safety goals through ordinances for electric-only new construction and allow localities to adopt codes with stronger energy efficiency and climate standards.

Instruct the Virginia State Energy Office to pursue available federal funding geared towards climate-focused community initiatives to enable the state to carry out a non profit coalition led public awareness campaign aimed at retrofitting, weatherizing, and electrifying residential homes for institutionally underserved communities.

Reform the building code consideration process at DHCD by eliminating the consensus workgroup requirement, which leaves Virginia's building codes in control of one entity, and allows all options to be heard, considered, and voted upon.



James River at sunrise – Richmond, Va
Photo by Siddharth Kumar



Train going by the Canal Walk – Richmond, Va
Photo by Siddharth Kumar

EXECUTIVE SUMMARIES & CONTACT INFORMATION

TRANSFORMING TRANSPORTATION

Virginia needs a cleaner, more equitable transportation system. For decades, funds have primarily gone to road projects to the detriment of safer, healthier, and greener choices. As a result, transportation is Virginia's largest source of carbon pollution and there are few alternatives to driving, especially in under-resourced communities. Despite some recent progress, transportation planning and funding continues to focus heavily on highway expansion and construction. With significant opportunities coming to Virginia due to a wave of federal funding, we must maintain recent progress and continue to transform our transportation approach to favor cleaner, healthier options that reduce traffic, improve safety, and protect our environment.

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MODERNIZING PUBLIC TRANSIT

Public transportation provides tremendous benefits to the communities it serves. Our buses, trains, trolleys, and ferries offer greater mobility, reduction in traffic and carbon pollution, and economic growth.

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EXPANDING RAIL

Compelling energy, economic, and environmental benefits flow from maximizing the use of rail to move both people and goods. Virginia has made significant progress on passenger rail in recent years, but increased funding is needed to improve the speed, frequency, and reliability of service; extend service to new places; modernize stations, further reduce their environmental impact, and improve multimodal connections to them. It is also important to redirect freight traffic from roads to rail to reduce pollution and congestion, preserve abandoned rail corridors for future freight and passenger service, and support the transition to zero-emission trains.

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PUBLIC TRANSIT

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TRANSFORMING TRANSPORTATION

PUBLIC TRANSIT

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EXECUTIVE SUMMARY

Virginia needs a cleaner, more equitable transportation system. For decades, funds have primarily gone to road projects to the detriment of safer, healthier, and greener choices. As a result, transportation is Virginia's largest source of carbon pollution and there are few alternatives to driving, especially in under-resourced communities. Despite some recent progress, transportation planning and funding continue to focus heavily on highway expansion and construction. With significant opportunities coming to Virginia due to a wave of federal funding, we must defend recent progress and continue to transform our transportation approach to favor cleaner, healthier options that reduce traffic, improve safety, and protect our environment.

CHALLENGE

Significant transportation reforms have been adopted in recent years, including increased funding for transit, rail, and highway maintenance and the groundbreaking Transforming Rail in Virginia initiative. Additionally, SMART SCALE continues to provide objective and transparent basis for selecting projects for funding.

HIGHWAY EXPANSION INCENTIVIZES MORE DRIVING, THUS FAILING TO PROVIDE LONG-TERM CONGESTION RELIEF

Decades of studies and experience have proven that new and wider highways incentivize sprawling development and encourage more driving, thus failing to provide long-term congestion relief.¹ Transit investments, in contrast, have been shown to provide a significant return on investment,² yet over 75% of the draft FY2024-29 Six-Year Improvement Program is allocated to highways.³ Efforts to weaken or sidestep SMART SCALE abound, including budget earmarks and proposals under consideration in the current review of the process being conducted by the administration.

Virginia's asphalt-centered approach has profound effects on our communities and environment. Transportation generates over half of all statewide carbon pollution,⁴ and communities of color and under-resourced communities bear a disproportionate share of the health burdens from transportation-related pollution.⁵ Moreover, new and expanded roads destroy natural resources such as forests and wetlands that absorb carbon and increase communities' resilience to sea level rise and flooding statewide. They also add to the maintenance costs taxpayers must cover. And they often do little to improve mobility and access for the hundreds of thousands of Virginians who do not own a personal vehicle.

SOLUTION

Meeting the climate crisis, spending tax dollars more wisely, and improving the health, equity, and mobility of Virginians requires moving away from a transportation paradigm focused on ever-increasing asphalt. It requires focusing funding on existing infrastructure through a "fix it first" approach and shifting substantial amounts of our state and regional transportation budgets from highway construction to public transit, rail, bicycle, and pedestrian facilities.

This shift is essential for the Commonwealth to remain economically competitive. Transit and other alternatives to driving can provide critical access to jobs, healthcare, and essential services; today's businesses increasingly seek to locate in walkable communities with good access to public transportation.⁶

As federal funding makes its way into Virginia under the new infrastructure laws, we need to seize the moment to pursue competitive grants for cleaner, more equitable transportation - particularly for communities for whom car ownership may be out of reach or who are overburdened with historical and current pollution. We must also defend the data-driven, objective approach of the SMART SCALE

prioritization process, which is currently under review, and extend those principles to other transportation funding decisions such as federal funding allocations and regional transportation funding mechanisms.

We also need to strengthen consideration of the climate change effects of transportation plans, proposals, and funding decisions and ensure

that state and regional plans serve to reduce, rather than exacerbate, emissions of greenhouse gasses and other pollutants. In addition, the Commonwealth should set a specific goal for reducing vehicle miles traveled and step up efforts to accelerate the electrification of vehicles and expand charging infrastructure for the driving we continue to do.

POLICY RECOMMENDATIONS

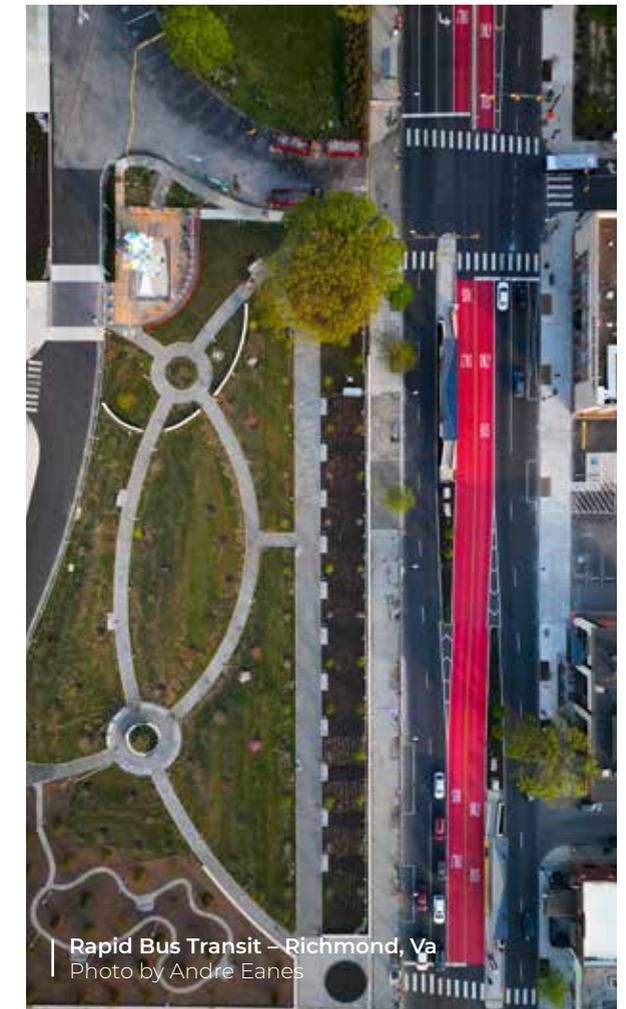
Establish a statutory goal to increase the share of clean transportation funding to 50% by 2030 to expand mobility options, reduce pollution, and maximize clean transportation funding under the federal infrastructure law; in line with federal initiatives, 40% of funding should go to under-resourced communities and communities overburdened by current and historical pollution.

Strengthen "fix it first" requirements in Virginia Code and allocate funding to ensure that road funding first covers maintaining and repairing existing infrastructure.

Ensure SMART SCALE retains an objective, data-driven approach that promotes transparency and accountability in transportation funding decisions and opposes efforts to fund projects outside of the prioritization process.

Prioritize carbon pollution reduction in transportation planning and funding, including assessing climate change impacts of highway projects and their consistency with state greenhouse gas reduction goals, evaluating compliance with the 2020 Virginia Environmental Justice Act,⁷ and requiring state and regional plans to cut carbon emissions and reduce vehicle miles traveled.

Set a specific goal for VDOT and DRPT to reduce statewide vehicle miles traveled by 20% by 2050.



Rapid Bus Transit – Richmond, Va
Photo by Andre Eanes

MODERNIZING PUBLIC TRANSIT

PUBLIC TRANSIT

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EXECUTIVE SUMMARY

Public transportation provides tremendous benefits to the communities it serves. Our buses, trains, trolleys, and ferries offer greater mobility, reduction in traffic and carbon pollution, and economic growth.

CHALLENGE

The pandemic pummeled our transit systems, impacting ridership, employee recruitment and retention, and operational costs. However, public transportation's recovery is well underway: Hampton Roads Transit's ridership is nearly 60% of pre-pandemic levels and growing, Virginia Railway

Express' ridership is up 400%, the Metro recently hit its highest ridership day in nearly a decade,¹ and Alexandria's DASH and Richmond's GRTC are two of the seven largest transit nationwide that have exceeded their pre-pandemic ridership.² Commuter services are still building back due to the increase in telework; however, many systems' core routes are performing better than ever.

Workforce recruitment and retention remain difficult, with several transit systems facing operator shortages. For example, GRTC is 18% below its driver targets, Harrisonburg Transit is 25 drivers short of its goal, and Roanoke's Valley Metro needs 30 additional drivers.

Public Transit – Richmond
Photo by Dan Motta



Replacing aging infrastructure has also gotten difficult. Pre-pandemic, it would take about a year for a replacement bus to hit the streets after ordering it. Today, the wait time could take 2+ years, particularly for zero-emission buses. The nationwide trend of fleet electrification is also increasing the need for transit agencies that haven't already begun their zero-emission transition plans to start that planning process.

ONLY 11% OF VIRGINIA'S BUS STOPS HAVE A SHELTER, 19% HAVE A BENCH, AND 38% FULLY COMPLY WITH THE AMERICANS WITH DISABILITIES ACT

The final challenge is the lack of dignity, accessibility, and essential infrastructure at many bus stops. The 2021 Transit Equity and Modernization report found that just "11% of (Virginia) bus stops have a shelter, 19% have a bench, and only 38% fully comply with the Americans with Disabilities Act".³ Most of Virginia's bus stops are simply signs stuck in the ground.

SOLUTION

Transit ridership in Virginia has been trending upward for decades. In 2019, over 412,000 trips a day were taken on public transportation, resulting in 1.03 billion passenger miles taken off our roads, preventing the burning of 17 million gallons of fuel and the release of 155,000 metric tons of CO2 pollution. Additionally, public transit generated nearly \$2.4 billion in economic benefits for the Commonwealth that year.

For public transportation to continue its strong growth and meet the moment by modernizing fleets and increasing access, our systems need additional funding and innovative policymaking. Perfect examples of this are Hampton Roads Transit, Mountain Empire Transit, and Bay Transit which have piloted microtransit and seen a doubling of ridership in parts of their region. Such service allows agencies to provide on-demand, door-to-door service in low-density areas where

fixed routes may not be the best fit. DRPT's pilots have also shown that ridership strengthens on fixed routes when these routes are connected to microtransit services.

Expanding and maintaining zero or reduced fare programs, as demonstrated by Richmond, Charlottesville, Alexandria, Petersburg, Blacksburg, and others can play a key role in rebuilding and increasing ridership. Additionally, several transit systems are increasing driver pay by as much as 40% to help attract and retain employees in a competitive job market.

About 14% of eligible Virginians don't have a driver's license and 6% don't live in a household with an automobile. To enhance accessibility, investment in essential stop infrastructure such as benches, shelters, lighting, sidewalks, and crosswalks is necessary. Recent state legislation allows for up to 30% of the Transit Ridership Incentive Program (TRIP) to be dedicated to transit stop infrastructure, but more funding is needed.

POLICY RECOMMENDATIONS

Protect and increase existing statewide and regional transit funding including addressing WMATA's fiscal cliff.

Improve transit ridership by expanding service, continuing zero and low fare programs, and encouraging dense land use around stops.

Increase regional transit funding in under-invested areas.

Expand the TRIP program to include zero-emission transition plans for transit systems.

Expedite and streamline the implementation of last foot transit infrastructure (bus stop benches, shelters, crosswalk and lighting, etc).

Advocate for fair allocation of federal and state multimodal grants to transit projects.

EXPANDING RAIL

PUBLIC TRANSIT

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EXECUTIVE SUMMARY

Compelling energy, economic, and environmental benefits flow from maximizing the use of rail to move both people and goods. Virginia has made significant progress on passenger rail in recent years, but increased funding is needed to improve the speed, frequency, and reliability of service; extend service to new places; modernize stations, further reduce their environmental impact, and improve multimodal connections to them. It is also important to redirect freight traffic from roads to rail to reduce pollution and congestion, preserve abandoned rail corridors for future freight and passenger service, and support the transition to zero-emission trains.

CHALLENGE

Virginia's efforts since 2008 to improve and expand passenger rail service resulted in a

55% increase in service, a doubling of ridership, and expanded daily service to 2.5 million more Virginians.¹ Recent ridership is setting new records, with our Regionals projected to carry 1.2 million passengers this year alone² – avoiding an estimated 282.9 million passenger miles on our roads, reducing fuel consumption by about 6 million gallons, and preventing the release of 53,000 metric tons of carbon pollution.³

TRAIN TRAVEL IS 46% MORE ENERGY EFFICIENT THAN DRIVING

Passenger rail needs continued investment to achieve even greater impacts. Train travel times and reliability need to be improved, many stations need repair and updating, and transit connections between rail stations and activity centers are frequently limited or lacking altogether.

Additional service is needed as well. Our passenger rail network is primarily set up for north-south travel and there is next to no east-west service. A 4.5 hour drive between Norfolk and Roanoke takes 16 hours by train; an east-west rail connection would reduce the number of cars on both I-64 and I-81.

And although train travel is far less polluting and 46% more energy efficient than driving, electrifying rail in Virginia—which is already in place from Washington, DC north—would be much cleaner.⁴ New state corridors should be built to accommodate zero-emission technologies. Further, a central challenge for freight rail is that the major railroad corporations are focused on downsizing their assets and workforce to maximize short-term returns to shareholders, resulting in longer trains and more frequent breakdowns.

SOLUTION

Since December 2019, the state has announced and finalized agreements with CSX and Norfolk Southern to purchase 663 miles of railroad right-of-way and track, construct 50 miles of new railroad track, and double the rail capacity between DC and Virginia. These agreements, which are core parts of the Transforming Rail in Virginia program (TRVA), will allow six new roundtrip Amtrak Regional trains, the extension of service from Roanoke to Christiansburg, and five more Virginia Railway Express trains on the Fredericksburg line (including weekend service). Funding for the TRVA program is essential to increase service, reduce travel times, and increase the reliability of our trains.

To restore direct east-west passenger rail service between Hampton Roads and Roanoke, the state has submitted the Commonwealth Corridor to the Federal Railroad Administration's (FRA) Corridor Identification Program to place it in the federal project pipeline. The state is

also updating its station modernization and improvement plan accordingly.

The TRVA agreements will allow for future phased electrification of our rail service when the DC-Richmond-Raleigh corridor is fully built out. We should look for opportunities and technologies that will allow the state to begin to decarbonize our rail corridors sooner.

We should also look at incentives for moving freight from trucks to rail while being prepared for abandonments of rail lines by the Class One railroads and ensuring the Commonwealth is ready to railbank such corridors for future use. Lastly, we should explore opportunities to make freight railroads more responsive to public interest concerns—including the need to decarbonize their train fleets.

POLICY RECOMMENDATIONS

Protect and increase rail funding to support the implementation of the Transforming Rail in Virginia program.

Support the Commonwealth Corridor's (New River Valley - Charlottesville - Richmond - Hampton Roads) inclusion in the FRA Corridor Identification Program.

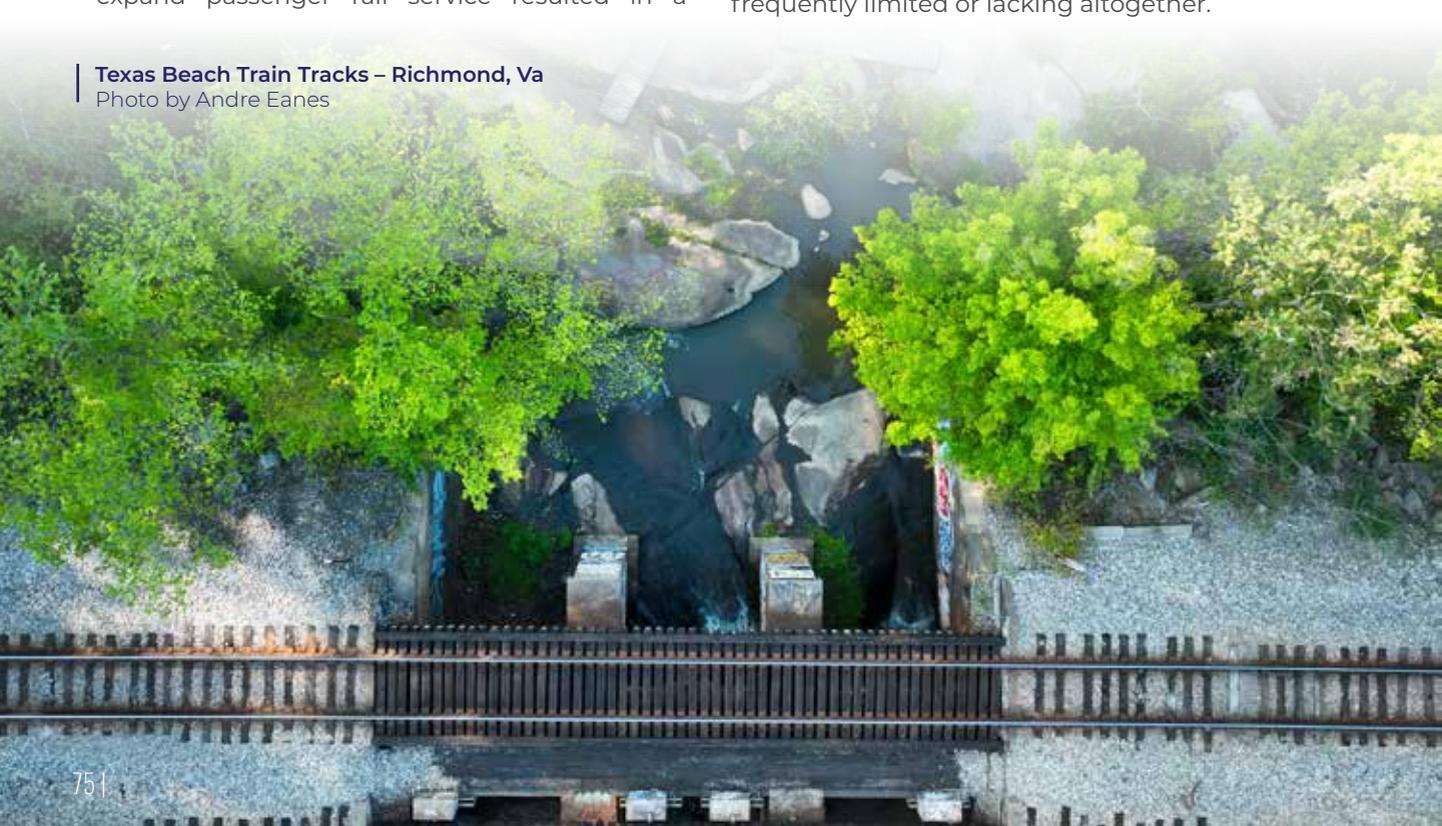
Fund rail station modernization and provide multimodal connections between stations and activity centers.

Authorize a state study of opportunities to expedite the transition to zero-emission trains and infrastructure.

Fund a study of the economic and environmental life-cycle costs and benefits of adding new freight capacity on rail vs. roadways.

Protect any potentially abandoned rail corridors through public purchase and railbanking for future use.

Texas Beach Train Tracks – Richmond, Va
Photo by Andre Eanes





EXECUTIVE SUMMARIES & CONTACT INFORMATION

SAVING PEDESTRIAN LIVES

Pedestrian and vulnerable road user fatalities continue to climb in Virginia at an alarming rate. Virtually all roadway fatalities are preventable with the right infrastructure and enforcement, but more than 1,000 Virginians will continue to die every year if we don't change our policies and what we fund. Specific steps must be taken to save lives by reducing car speeds, better educating all road users, and redesigning our roadway network for better pedestrian protection. The tools to reverse this tragic trend are as simple as sidewalks and pedestrian refuges, but Virginia needs policy and resources to make a change.

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INCREASING ACCESS TO BICYCLING

Transportation is Virginia's largest generator of climate change emissions. Shifting trips to bicycling will reduce emissions since bicycling is carbon-free. That said, concern for safety is a key deterrent to more people bicycling. Bicyclists often have to share the road with motor vehicles, which can be intimidating and dangerous. Virginia needs a commitment to improving safety for people who bike and/or are interested but hesitant to bike. This effort will require dedicated funding to build safer bicycling infrastructure, the Bicyclist Safety Stop, and updating the Commonwealth's bicycling policies for the 21st Century.

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ENSURING CONSISTENT SUPPORT FOR TRAILS

Trails facilitate the movement of people, create opportunities for outdoor recreation, maximize the benefit of conserved land, improve public health, and stimulate economic development across Virginia. Despite the multitude of benefits trails provide, they are inaccessible to many communities, and Virginia is not building them fast enough to meet growing demand. Ensuring consistent support for trail planning, construction, and maintenance will continue to make Virginia a great state in which to live and visit.

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SAVING PEDESTRIAN LIVES

WALKING & BICYCLING

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EXECUTIVE SUMMARY

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CHALLENGE

2022 saw a significant increase in pedestrian fatalities in Virginia. This 36% increase in deaths over 2021 claimed 46 more lives and is among the worst pedestrian fatality rates in the entire nation.¹ The spike in people killed while walking is

more than the 4.3% traffic fatality increase across all modes (46 compared to 42 additional lives lost) in that period as Virginia's roadway death toll topped 1,000 lives lost for the first time in 16 years.

VIRGINIA HAS ONE OF THE WORST PEDESTRIAN FATALITY RATES IN THE ENTIRE NATION

The massacre on our roadways is the result of worsening speeding, larger vehicles like SUVs and trucks with limited visibility, increases in driver impairment and distraction, and roadway design that prioritizes cars' speed over the lives of the Commonwealth's residents.

Police enforcement alone has not effectively reduced traffic fatalities. The only consistently reliable way to get drivers to slow down is to redesign our roads with improved infrastructure such as raised crosswalks, speed humps, narrower lanes, bulb-outs, and pedestrian refuges. These relatively low-cost solutions can add up quickly

at the scale the Commonwealth needs to deploy them, but despite VDOT's \$8 billion annual budget, there never seems to be enough money available for simple safety improvements like adding sidewalks to state roads.

In light of record road fatalities, it is time to redesign and reissue the Virginia Driver's Manual to put safety first. Drivers must be taught how to operate their vehicles safely around pedestrians, cyclists, and other road users.

All people are pedestrians at some point, even those who primarily drive or who are unable to walk, and improving pedestrian safety increases safety outcomes for all other road users.

SOLUTION

Speed cameras are an effective deterrent to speeding, which is the number one predictor of crash mortality. Not only do they lessen the staff burden of traffic enforcement, but they also apply enforcement equitably, consistently, and without bias. Although automated photo speed enforcement (ASE) has been shown to reduce the number of drivers speeding by up to 60%,² this safety tool is currently only authorized in school zones and work zones. Their use needs to be allowed in other high pedestrian traffic areas such as residential and business districts.

Virginia currently allows localities to lower speed limits on municipal roads in residential and business districts to as low as 15 MPH, but VDOT has interpreted this to not apply to state-owned roads. Outside residential and business districts, the traffic study requirement has made such changes prohibitively expensive. The law needs to be fixed to solve both problems.

State-owned roads in residential and business districts are where most pedestrian traffic fatalities occur, often called the "high injury network."³ These high-injury networks should be codified into pedestrian safety zones modeled after the Interstate Safety Corridors to dedicate

more funding, programming, and automated enforcement of safety in these zones.

Pedestrian-focused safety infrastructure is not being built to outpace the growth in fatalities, so more funding and safety programming needs to be dedicated to saving these lives. This includes dedicating more state funding to infrastructure projects that can be used quickly and responsively to shift safety needs.

The Virginia driver's manual deemphasizes pedestrian safety and does not include updated information about safe street designs and how to drive around them. It is in need of an overall to meet this dire safety challenge, ensuring all Virginians know how to drive safely around people walking.

POLICY RECOMMENDATIONS

Authorize localities to use Automated Photo Speed Enforcement systems to residential neighborhoods and business districts.

Allow local authority to lower speeds on state-controlled roads for safety in residential and business districts.

Redesign and reissue the Virginia Driver's Manual with a new special emphasis on pedestrian and bicyclist safety, including mandatory bike/ped questions on the driver's exam.

Allocate 10% of the State's surplus funds in a given year to road safety infrastructure improvement projects.

Establish a Pedestrian Safety Corridor program similar to the Interstate Safety Corridor program to increase awareness, safety resources, and enforcement in areas of high pedestrian safety crashes.

Prioritize pedestrian safety in the ongoing update of SMART SCALE.

Family walking on the Virginia Capital Trail – Richmond, Va
Photo by Angela Hollowell



INCREASING ACCESS TO BICYCLING

WALKING & BICYCLING

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EXECUTIVE SUMMARY

Transportation is Virginia's largest generator of climate change emissions. Shifting trips to bicycling will reduce emissions since bicycling is carbon-free. That said, concern for safety is a key deterrent to more people bicycling. Bicyclists often have to share the road with motor vehicles, which can be intimidating and dangerous. Virginia needs a commitment to improving safety for people who bike and/or are interested but hesitant to bike. This effort will require dedicated funding to build safer bicycling infrastructure, the Bicyclist Safety Stop, and updating the Commonwealth's bicycling policies for the 21st Century.

CHALLENGE

Virginia will not achieve its climate goals until bicycling is much safer and more accessible. In 2022, 652 people bicycling were injured in Virginia, a 6% increase from 2021. Forty-three percent of people report the desire to ride their bicycle more,¹ but many lack safe and accessible places to ride.

Nearly 200,000 Virginia households have no access to a motor vehicle and need to bike and walk as a part of their primary commutes.² As traffic fatalities continue to climb, Black and Brown pedestrians are up to twice as likely to be killed.³ Virginia needs to reduce its Vehicle Miles Traveled and bicycling is an excellent way to do that. Addressing these issues requires added infrastructure, funding to build it out, and policies that allow for bicycling as safe transportation to where people need to go.

To stay safe and feel comfortable, people riding bicycles need spaces that are physically separated from drivers. SMART SCALE funding for on-street bike facilities and dedicated trail funding are needed to build out safe biking facilities to save lives and give people the freedom to bike where they need to go (See TRANSFORMING

TRANSPORTATION, pg 71 and ENSURING CONSISTENT SUPPORT FOR TRAILS, pg 83). Furthermore, bicycle riders need proven injury-reduction policies, such as the freedom to yield at stop signs, to proceed on walk signals, and to travel side-by-side within a lane. That last policy is especially important for parents who want to ride with their kids and shield them from traffic.

43% OF PEOPLE WANT TO RIDE THEIR BICYCLE MORE BUT LACK SAFE PLACES TO RIDE

To implement such needed reforms, Virginia's 2011 State Bicycle Policy Plan needs to be updated to better serve as a framework that encourages bicycling by people of all ages and abilities.

SOLUTION

Virginia needs to provide safe and accessible accommodations for people of all ages and abilities who are interested in bicycling. The safer our transportation network, the greater freedom people have to choose cleaner modes.

People bicycling are safest when they are physically separated from drivers, for example on protected and separated trails. The Virginia Capital Trail between Richmond and Jamestown experienced more than 1.2 million⁴ trail users in 2020; the Custis Trail in Rosslyn experienced more than 3.5 million⁵ trail users in 2021. To add to our trail systems in the Commonwealth, we need dedicated funding for multi-use trails. Localities also need funding from all government levels to provide safe bicycling infrastructure for people of all ages and abilities.

Incentivizing e-bike purchases, particularly for low-income residents, and implementing proven safety measures will make Virginia more accessible for bicycling. For example, the Safety Stop, which allows people on bicycles to yield at stop signs, was shown to contribute to a 23%

reduction in bicycle crashes at intersections in a Delaware 5-year study. Allowing people on bicycles to proceed on walk signals and to ride two abreast also improves safety and should be allowed. Allowing people the freedom to choose their safest course will reduce the number of people injured riding bicycles in Virginia.

Virginia's "State Bicycling Policy Plan" and Complete Streets Policy should be updated to better incorporate trails, bike lanes, reconfigured roads, shoulders, and other safety and access measures. Adopting proven safety measures and updated guidelines will lead to more people choosing bicycling as a transportation option.

POLICY RECOMMENDATIONS

Support SMART SCALE recommendations in TRANSFORMING TRANSPORTATION, pg 71.

Establish a state-funded multi-use trail budget at \$41m annually to provide access to life-saving projects across the Commonwealth.

Update Virginia's 2011 Bicycling Policy Plan⁶ and 2004 Complete Streets policy.⁷

Allow the "Safety Stop", proceeding on walk signals, and two-abreast riding, allowing bicyclists in Virginia to benefit from safety measures proven in other states.

Establish an equitable e-bike point-of-sale rebate to boost climate-friendly mobility.



Bikers on the Virginia Capital Trail
Photo by Angela Hollowell

ENSURING CONSISTENT SUPPORT FOR TRAILS

WALKING & BICYCLING

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EXECUTIVE SUMMARY

Trails facilitate the movement of people, create opportunities for outdoor recreation, maximize the benefit of conserved land, improve public health, and stimulate economic development across Virginia. Despite the multitude of benefits

trails provide, they are inaccessible to many communities, and Virginia is not building them fast enough to meet growing demand. Ensuring consistent support for trail planning, construction, and maintenance will continue to make Virginia a great state in which to live and visit.

CHALLENGE

We are grateful for the creation of the Office of Trails and past funding over the recent years for trails, but future funding is uncertain. Trails are continually shown to be essential to our transportation and public health systems, allowing for millions of trips each year in Virginia and accounting for tremendous health improvements.

Additionally, trails play a crucial role in our economy by generating tens of millions in tourism dollars and health benefits for users of all kinds of trails, including water trails for canoeing and kayaking, hiking trails, horse trails, and walking and biking trails. Despite the clear evidence of the vast benefits of trails, Virginia is not building them at a pace to meet the demand and need.¹ We must continue to invest in trails to meet both the current demand for trails as well as the increased need for trails in all regions in the Commonwealth.

Too few Virginians have access to trails from their front doors. We must build more trails close to where people live. Access to trails for transportation, health, and recreation should not be ZIP Code dependent, but for many communities, there are challenges

with meeting local funding needs to build local trails;² thus we need to dedicate state funds to help with matching funds for local communities to take advantage of historic opportunities, both with funding from the Commonwealth as well as the federal government.

Access to trails across Virginia is not equitably shared;³ we must prioritize statewide trail planning and coordinated investment in trails that meet current and future needs, especially in low-income communities as well as majority Black and Latinx communities.

SOLUTION

With clear demand across the Commonwealth for trails of all types, state-wide support for trail planning, development, and construction must increase to meet that demand. Increasing trail usage more than justifies the need for consistent state funding to help all communities build new trails as well as improve and maintain existing infrastructure.⁴

The Office of Trails at VDOT can help lead the way in the Commonwealth by supporting local communities and regional agencies through the dissemination of best practices in trail planning, development, construction, operations, maintenance, and rehabilitation. Trails must be constructed to accommodate all ages and abilities and be planned to promote community connectivity. In addition, they must be maintained and improved over time to both meet the needs of current trail users and attract new users. Trails are economic engines for Virginia and increase the quality of life for its residents.

TRAILS ARE ESSENTIAL TO OUR TRANSPORTATION AND PUBLIC HEALTH SYSTEMS, ALLOWING FOR MILLIONS OF TRIPS EACH YEAR IN VIRGINIA

A minimum of \$41 million a year of state revenue should be allocated to the Office of Trails at VDOT to build and maintain Virginia's significant backlog of trail development. It is imperative that funding be allocated to effectively invest in a variety of trails, from major trail projects with the highest potential for use to trails in communities that are fiscally challenged to meet matching requirements.

In addition, a state-wide trail designation should be created, similar to Florida's Designation System,⁵ to strengthen public awareness and use of Virginia's interconnected trail systems. This designation system should include local, regional, and statewide trails that provide important transportation and recreational opportunities across the Commonwealth.

POLICY RECOMMENDATIONS

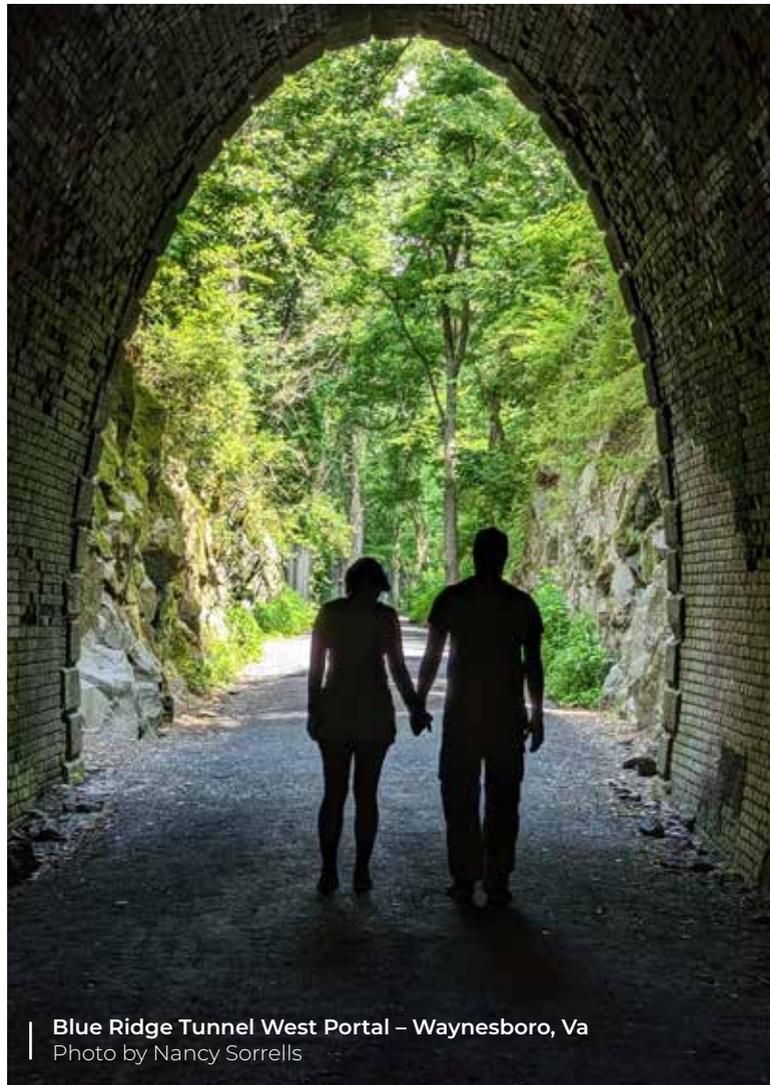
\$41M per year in recurring, state-derived VDOT funding, adjusted for inflation from 2022 dollars, for the Office of Trails to plan, construct, and maintain trails in the Commonwealth.

\$1M for grant match funds for low-income communities, communities of color, and smaller localities with populations under 25,000 for better connectivity to transportation and recreation, to be administered by VDOT.

Fill the remaining full-time staff position established in 2022 to add more staff capacity to the VDOT Office of Trails.

Establish a State Trail Designation Program and direct resources toward marketing Virginia's trail systems.

\$1.5M in state-derived trail funding to the Department of Conservation and Recreation to match the Federal Recreational Trails Program grant program.



Blue Ridge Tunnel West Portal – Waynesboro, Va
Photo by Nancy Sorrells

CLIMATE & ENERGY

Virginia has enacted significant policies to move the Commonwealth towards a clean energy future. We must ensure these policies are enacted and expand upon these commitments through responsibly developing clean energy infrastructure, ramping up energy efficiency and solar investments, and ensuring an equitable transition to a clean energy economy. Preventing the buildout of fossil fuel & unproven energy technologies and leaning into proven, affordable renewable energy projects will effectively combat climate change and ensure affordable energy for Virginians. To provide reliable and affordable services for Virginians, we must leverage this clean energy transition to address inequalities baked into the laws that currently regulate our current utility system.

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EXECUTIVE SUMMARIES & CONTACT INFORMATION

ACHIEVING 100% CLEAN ENERGY

Virginia is committed by law to powering the Commonwealth with 100% carbon-free electricity by 2050 through the passage of the 2020 Virginia Clean Economy Act (VCEA). The VCEA outlines a clear path to achieving this zero-carbon future by mandating the retirement of fossil fuel generators; the construction of solar, wind, and battery storage; and instructing utilities to meet energy efficiency standards. Unfortunately, repeated attempts to repeal or weaken this law have sought to compromise our ability to achieve an emissions-free electricity grid. Virginia must stay the course on our clean energy future by maintaining the fossil fuel power plant retirement schedule, investing in energy efficiency, and ensuring that credits for renewable energy are only available to viable clean, renewable sources.

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PARTICIPATING IN THE REGIONAL GREENHOUSE GAS INITIATIVE

The Regional Greenhouse Gas Initiative (RGGI) is a necessary tool for dealing with the causes and impacts of climate change. RGGI has already demonstrated its effectiveness in drawing down emissions and providing needed funding for flood resilience and energy efficiency across the Commonwealth. Virginia should continue its participation in RGGI and ensure the funds generated through RGGI, which flow to the Community Flood Preparedness Fund (CFPF) and energy efficiency programs, remain fully intact.

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ACHIEVING 100% CLEAN ENERGY

DECARBONIZING THE GRID

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CHALLENGE

Experts continue to warn that governments across the world must slash emissions significantly in the short-term in order to achieve net zero by mid-century to ensure a stable, healthy climate for current and future generations.¹ Decarbonizing the economy begins with the electric sector, which is directly responsible for nearly a third of Virginia's carbon pollution, and is particularly important as we electrify cars and buildings.²

FOSSIL FUELS STILL MAKE UP OVER 60% OF VIRGINIA'S ENERGY GENERATION

Virginia's electricity is still reliant on fossil fuels, which collectively make up over 60% of our generation.³ This legacy of fossil fuel generation has short and long-term consequences (see DEFENDING THE REGIONAL GREENHOUSE GAS INITIATIVE, pg 91). Thankfully, Virginia passed the landmark Virginia Clean Economy Act (VCEA) in 2020, charting a course to zero carbon emissions in our utility sector by 2050.

Unfortunately, Virginia's largest utility – Dominion

Energy – has signaled its plans to ignore the VCEA and take Virginia down a reckless and costly road. Its latest Integrated Resource Plan (IRP) makes no effort to meaningfully plan to phase out fossil power plants on a reasonable timeline. It fails to leverage the still untapped potential of energy efficiency, and it proposes tens of billions of dollars in modular nuclear and new natural gas facilities – while simultaneously placing all the risk of project failure on Virginians (see MANAGING TECHNOLOGIES UNPROVEN AT SCALE, pg 107).

SOLUTION

To achieve a zero-carbon emission grid, Virginia must fully implement the VCEA with a particular focus on its core tenets: the retirement of the fossil fuel generation fleet and the construction of and incentivization of proven zero-carbon resources.

The VCEA charted Virginia's clean energy path in 2020 to tackle climate change and establish the Commonwealth as a leader in the clean energy transition. This landmark policy has four main components: a 100% Renewable Portfolio Standard (RPS), a Battery Storage Acquisition requirement, an Energy Efficiency Resource Standard, and fossil fuel generation retirement schedule – all of which are overseen by the SCC to ensure a reliable and affordable transition takes place.

An RPS outlines the required amount of electricity generation from clean, renewable resources – such as wind and solar.⁴ State-level renewable portfolio standards are highly effective – responsible for over 50% of clean energy growth in the country.⁵ There are currently 22 states, plus the District of Columbia and Puerto Rico, with 100% clean energy directives.⁶

The VCEA also sets targets of 3,100MW of energy storage by 2035, and requires 10% of energy storage projects to be deployed for power

backups at hospitals, government facilities, and more.⁷ These storage requirements complement the Energy Efficiency Resource Standard, which requires Dominion and Appalachian Power to meet a specific portion of their electricity demand through energy efficiency.⁸

Lastly, the VCEA requires Dominion and Appalachian Power to retire their fossil fuel plants by 2045 and 2050, respectively, including almost all of Dominion's coal-fired power plants by 2030.⁹ The VCEA allows utilities to petition the SCC to keep those plants open longer if closing them could negatively affect reliability.¹⁰

The VCEA, along with the Regional Greenhouse Gas Initiative (RGGI), put Virginia on a clear and stable path to a zero-carbon grid by 2050, and it must be implemented to its fullest potential.

POLICY RECOMMENDATIONS

Maintain the mandatory fossil fuel retirement schedule.

Ensure that VCEA incentives for clean energy remain applicable only to proven, zero-carbon resources like solar and wind.

Ensure that the SCC has full authority to shield captive ratepayers from the costs and risks of still unproven emerging generation technologies like modular nuclear reactors and hydrogen (See MANAGING TECHNOLOGIES UNPROVEN AT SCALE page 107).

Expand the role that third-party owned and operated solar, wind, and storage play in our energy mix (see SHIFTING UTILITIES' INCENTIVES FOR AFFORDABLE, CLEAN ENERGY, page 115).

Increase energy efficiency targets and empower the SCC to hold utilities accountable for failure to achieve said targets (see CUTTING ENERGY BILLS & AIR POLLUTION WITH ENERGY EFFICIENCY, page 95).

A clean energy transition protects our future generations – Chincoteague Island, Va
Photo by Lis Heras



PARTICIPATING IN THE REGIONAL GREENHOUSE GAS INITIATIVE

DECARBONIZING THE GRID

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EXECUTIVE SUMMARY

The Regional Greenhouse Gas Initiative (RGGI) is a necessary tool for dealing with the causes and impacts of climate change. RGGI has already demonstrated its effectiveness in drawing down emissions and providing needed funding for flood resilience and energy efficiency across the Commonwealth. Virginia should continue its participation in RGGI and ensure the funds generated through RGGI, which flow to the Community Flood Preparedness Fund (CFPF) and energy efficiency programs, remain fully intact.

CHALLENGE

Virginia is already seeing the effects of climate change, and those effects are expected to intensify over the coming decades. By 2100, Virginia and the Chesapeake Bay watershed can expect to see up to a 20% average increase in extreme precipitation compared to 1950-2000.¹ In the next 60 years, nearly 950,000 Virginians are expected to be at risk from major coastal flooding and annualized coastal flood damages are expected to increase to \$5.1 billion.²

In addition to damage from flooding, rising temperature itself puts Virginia's health and livelihood at risk. The first decade of the 2000s was the warmest on record,³ and by midcentury, half of Virginia's counties are expected to face an increased risk of water shortages due to hotter, drier conditions.⁴ The agricultural industry, which generates \$27 billion in economic value for the state,⁵ faces particularly acute harm from these changes as heat and drought put workers, livestock, and crop yields at risk.⁶

Burning fossil fuels to generate electricity is a key driver of climate change, and also puts Virginians' health in danger. According to EPA program data, power plants in Virginia produced 1,228 tons of SOx pollution and 6,125 tons of NOx pollution in 2021.⁷ Air pollutants like sulfur oxides and nitrogen

oxides can cause a range of dangerous health effects, including asthma and chronic bronchitis, and can damage the environment by acidifying water surfaces and soils, harming both forest and marine ecosystems.

SOLUTION

The urgency to address climate pollution only increases, but thankfully Virginia already has a proven solution in place. In 2020, the General Assembly enacted legislation requiring Virginia's participation in the Regional Greenhouse Gas Initiative, also known as "RGGI" (pronounced "Reggie"). RGGI's market-based approach is specifically designed to reduce power plant pollution, and this program is already delivering results.

CARBON EMISSIONS HAVE DROPPED BY MORE THAN 16% IN THE TWO YEAR'S THAT VIRGINIA HAS PARTICIPATED IN RGGI

In just two full years of participation, Virginia power plant emissions have dropped by more than 16%.⁸ Moreover, Virginia's participation is bringing substantial funding to critical programs. Communities faced with the direct impacts of climate change have already received \$96 million in 48 planning grants and 35 project grants from the Community Flood Preparedness Fund – the only dedicated state funding source for critical flood resilience planning and project implementation.⁹ RGGI also benefits low-income Virginians through the Affordable and Special Needs Housing Fund, which in 2021 delivered \$29 million through 35 grants across the state.¹⁰ More than 2,300 highly-efficient affordable housing units are under construction thanks to Virginia's RGGI participation. Through 2030, more than one hundred thousand low-income households stand to benefit from RGGI energy efficiency funds, reducing their energy costs and improving their health while creating local jobs in energy efficiency.¹¹

Virginians need RGGI. Without RGGI, Virginia's emissions did not drop between 2010 and 2020, and Dominion appears set on increasing emissions, rather than investing in cheap and reliable renewable energy.¹² Moreover, the administration is attempting to remove Virginia from RGGI through regulatory action, despite the legal questions surrounding their authority to do so.

In the face of these threats, it is more important than ever to maintain Virginia's participation in RGGI. RGGI is proven to curtail power plant emissions while providing desperately needed resources—on a consistent and prompt basis—to support low-income energy efficiency programs and to strengthen statewide resilience to

climate change. Additionally, reductions made to power sector carbon pollution through RGGI will very likely aid compliance with proposed federal carbon pollution standards, expected to be finalized next year.¹³

POLICY RECOMMENDATIONS

Maintain Virginia's participation in RGGI in accordance with the 2020 law.

Maintain full funding for the Community Flood Preparedness Fund and energy efficiency programs, and ensure the state treasury and agencies promptly and regularly distribute such funds.

RGGI improves the air we breath and protects our communities from flooding | Photo by Andre Eanes



EXECUTIVE SUMMARIES & CONTACT INFORMATION

CUTTING ENERGY BILLS & AIR POLLUTION WITH ENERGY EFFICIENCY

Virginians pay some of the highest electricity bills nationwide, causing families living in severe poverty to use a disproportionately high 17% of their income for energy, on average. But much of the energy Virginians pay for is wasted. Energy efficiency — performing the same function using less energy — lowers energy bills, reduces energy-related pollution, and can mitigate the need for new power generation. Making efficiency the bedrock component of Virginia's energy policy will reduce pollution and household costs while creating local, good paying jobs. Virginia can benefit from ambitious energy efficiency policies such as ensuring localities have autonomy over building codes, and stronger efficiency standards for utilities.

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POWERING PROGRESS THROUGH ROOFTOP SOLAR

Distributed rooftop solar has many benefits as we build out the clean energy needed to reach the 100% zero-carbon-emissions standard laid out in Virginia's Clean Economy Act (VCEA). It is built on pre-existing infrastructure, decreasing the amount of land needed for larger projects, and built in a decentralized fashion creating a more resilient grid. With the right policy landscape, rooftop solar can be deployed quickly (without the need to wait in a queue to be interconnected) which will reduce rising peak demand, decrease carbon-emitting sources on the grid, and increase ratepayer savings. Getting more solar on homes, businesses and solar on schools can reduce costs, enhance public health, and combat climate change.

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EXPANDING ACCESS TO COMMUNITY SOLAR

Community solar is an affordable renewable energy option for residents who cannot secure rooftop solar due to logistical constraints. However, the shared solar and multi-family shared solar programs are only available to customers of Dominion and Old Dominion Power and, due to the high minimum bill in the shared solar program, participation is disincentivized. In addition to these utility shared solar programs, Dominion's "community" solar pilot program is fully subscribed, and the community solar programs offered by electric cooperatives in Virginia have a higher cost/kWh than conventional energy. Several changes are needed to maximize the potential of shared or community solar in Virginia.

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MAXIMIZING OFFSHORE WIND GENERATION

The climate crisis demands rapid development of renewable energy resources, and offshore wind (OSW) has the potential to deliver upwards of 30% of Virginia's 100% clean energy standard. However, Virginia law supports only a small fraction of that standard generated by OSW. There is well over 10 GW of capacity in active and proposed projects just within the mid-Atlantic area that is most efficiently and logistically transmitting that OSW power to the larger PJM via entry into Virginia. For Virginia to realize the maximum economic and job creation benefits of OSW, ensure its equitable development, and quickly meet 100% clean energy goals, we must increase the amount of sustainably developed OSW in the public interest and require Virginia utilities to build and buy that total generation.

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Lee County Public Schools' Rooftop Solar Arrays |

Photo by Andre Eanes



RENEWABLE ENERGY & ENERGY EFFICIENCY

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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CUTTING ENERGY BILLS & AIR POLLUTION WITH ENERGY EFFICIENCY

RENEWABLE ENERGY & ENERGY EFFICIENCY

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EXECUTIVE SUMMARY

Virginians pay some of the highest electricity bills nationwide, causing families living in severe poverty to use a disproportionately high 17% of their income for energy, on average.^{1,2,3} But much of the energy Virginians pay for is wasted.⁴ Energy efficiency — performing the same function using less energy — lowers energy bills, reduces energy-related pollution, and can mitigate the need for new power generation.⁵ Making efficiency the bedrock component of Virginia’s energy policy will reduce pollution and household costs while creating local, good paying jobs.⁶ Virginia can benefit from ambitious energy efficiency policies such as ensuring localities have autonomy over building codes, and stronger efficiency standards for utilities.

CHALLENGE

While Virginia has passed significant energy efficiency legislation in the past, the Commonwealth’s chronically high electricity bills and energy burden — the percentage of gross household income spent on energy costs — show Virginia still has untapped energy efficiency potential.^{7,8,9} Energy efficiency programs can also help start to address historic injustices, as high energy costs disproportionately impact low-income, Black, and Latinx families.^{10,11,12}

Despite the progress Virginia has made, numerous barriers are still keeping the benefits of energy efficiency out of the hands of Virginians. Low-to-moderate income households stand to benefit most from energy efficiency, but the upfront costs are often too high. Lack of information also impedes the widespread uptake of such retrofits. Renters are often prevented from making efficient changes based on restrictions from the building owners. Business owners can also be limited by upfront costs and lack of information.

Builders of new construction often prioritize a lower sales price, rather than making a building more efficient during its initial construction,

locking Virginians into 50 to 100 years of higher energy costs. Existing buildings can increase efficiency by replacing fossil fuel-powered appliances, such as heating systems, with more efficient electric versions.¹³ Unfortunately, current policies restrict some opportunities for this beneficial electrification. Furthermore, utility monopolies chasing high-profit opportunities like building new power plants are continually incentivized to maintain higher energy demand over energy efficiency.

SOLUTION

Virginia needs an ambitious energy efficiency policy, which will drive down energy costs, reduce pollution, and spur job growth.

COST-EFFECTIVE EFFICIENCY UPGRADES CAN SAVE THE AVERAGE VIRGINIA HOUSEHOLD \$729 A YEAR ON UTILITY BILLS

Cost-effective efficiency upgrades can save the average Virginia household \$729 a year on utility bills.¹⁴ Businesses also benefit from energy efficiency, as the average commercial building wastes 30% of its energy.¹⁵ Furthermore, tapping the full US energy efficiency potential could cut national carbon emissions by 50% by 2050.¹⁶ Lastly, energy efficiency generates the highest number of jobs in Virginia’s energy sector. In 2022, the efficiency industry sustained over 74,000 jobs, compared to less than 31,000 from power generation and the fuel industry combined.¹⁷

A suite of complementary policies can expand these benefits in Virginia. Implementing more efficient building codes for new and renovated buildings and electrifying fossil fuel-powered appliances can further reduce energy costs and pollution.¹⁸ The Energy Efficiency Resource Standard (EERS) sets annual energy savings targets for electric utility monopolies. Stronger EERS targets, penalties, and incentives would

drive utilities to deploy broader efficiency programs, avoiding costly new generation.¹⁹

The Bipartisan Infrastructure Law and the Inflation Reduction Act made important resources available for energy efficiency investments. State agencies need to track and actively help beneficiaries — including local and state governments, utilities, schools, and homes — apply to as many funding opportunities as possible.

Local governments should also be empowered to advance energy efficiency. Localities need to be granted authority to (a) require building owners to “benchmark” their buildings’ energy intensity so potential tenants know energy costs in advance, incentivizing owners to make efficiency upgrades, and (b) adopt stronger efficiency and climate standards for buildings in their jurisdictions.

POLICY RECOMMENDATIONS

Extend and strengthen the Energy Efficiency Resource Standard targets beyond 2025.

Clarify that electric utility energy efficiency programs can include replacing fossil-fuel powered heaters and water heaters with electric ones.

Allow localities to 1) adopt codes with stronger energy efficiency and climate standards, and 2) require building owners to publicize buildings’ energy intensity.

Maintain Virginia’s participation in the Regional Greenhouse Gas Initiative, including the 50% revenue allocation to low-income energy efficiency programs, and ensure that the money is delivered to the projects that need it.

Require state agencies to track and develop a comprehensive plan to take advantage of all federal funding available.

Chrysler Museum Lightbulbs – Norfolk

Photo by Selah Ball



POWERING PROGRESS THROUGH ROOFTOP SOLAR

RENEWABLE ENERGY & ENERGY EFFICIENCY

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EXECUTIVE SUMMARY

Distributed rooftop solar has many benefits as we build out the clean energy needed to reach the 100% zero-carbon-emissions standard laid out in Virginia's Clean Economy Act (VCEA). It is built on a pre-existing infrastructure, decreasing the amount of land needed for larger projects, and built in a decentralized fashion creating a more resilient grid. With the right policy landscape, rooftop solar can be deployed quickly (without the need to wait in a queue to be interconnected) which will reduce rising peak demand,¹ decrease carbon-emitting sources on the grid, and increase ratepayer savings. Getting more solar on homes, businesses and solar on schools can reduce costs, enhance public health, and combat climate change.

CHALLENGE

Distributed energy is any energy that is produced at the same location that it is used and is less than five megawatts of capacity. Many distributed solar energy systems are sited on rooftops and are oftentimes referred to as "rooftop solar". Rooftop solar is oftentimes a much smaller system (less than 25kW). Unfortunately in Virginia, the adoption of rooftop solar on homes and apartment buildings lags because there are not a menu of programs that incentivize rooftop solar for Virginians, especially for those who are low-income. Barriers include the lack of access to upfront capital as well as arbitrary caps placed on the amount of distributed power that can be built as part of our electricity grid.

Developers can offer power purchase agreements ("PPAs") – a financial arrangement where a third-party developer owns, operates, and maintains a solar energy system on a customer's property, and the customer agrees to purchase the system's electric output for a predetermined period. However, the law limits that program's capacity to 500 MW. This cap includes both rooftop and distributed community solar (see EXPANDING

ACCESS TO COMMUNITY SOLAR, pg 99). For residential, only low income customers are eligible for PPAs meaning only those Virginians who can afford the upfront cost of a residential system or who can finance those costs on their own, are able to participate in Virginia's solar net metering program.

Net metered rooftop solar, which is a solar system connected to the grid that allows surplus energy to be credited to the customer, is also limited in scope by law in Virginia. Virginia law currently limits net metered energy to 6% of the previous year's peak-load.

Another major opportunity (and subsequent obstacle) is getting rooftop solar on schools. The Inflation Reduction Act (IRA) now allows for cost-effective solar array installations. Thanks to the IRA, many Virginia schools including those in Richmond, Isle of Wight, and Lee County, have effectively leveraged PPAs to incorporate solar energy into their local infrastructures.² Yet, this transformative shift towards renewable energy has been hindered by aging building stock throughout the state. Addressing this issue requires the renovation of existing infrastructure to facilitate the installation of rooftop solar.³

SOLUTION

Virginia can increase the amount of rooftop solar – thus decreasing the need for more carbon-emitting power plants to meet peak demand by increasing the ability for consumers to access upfront capital, removing restrictive market caps, and ensuring solar-ready roofs. In addition, a state level investment tax credit on rooftop solar could further boost financial capital and has been shown to be effective in increasing installations.⁴

To expand equitable access to rooftop solar, the IRAs Greenhouse Gas Reduction Fund ("GGRF") contains a \$7 billion Solar for All competition, which can provide disadvantaged communities with renewable funding. Expanding the

opportunity for PPAs (aka solar leases) and alternative financing can also increase adoption by low-income customers as they can avoid upfront costs. While Virginia's net metering law allows solar leases, certain utilities have declined to expressly consent to interconnect such customers. For purchases, Residential Property Assessed Clean Energy (R-PACE) provides an innovative mechanism for financing renewable energy by avoiding credit checks and using the homeowner's property as collateral. Authorizing the adoption of R-PACE districts with airtight consumer protection provisions has proven to be effective.

Lastly, Virginia schools can reduce energy costs through rooftop solar, freeing funds for vital areas like teachers' salaries. For instance, Highland Springs High School will save \$420,000 over 25 years with solar.⁵ The adoption of solar-ready roofs and net-zero designs should be mandated, ensuring a sustainable future.

A robust distributed energy policy can bring more renewable energy to the grid more quickly, decrease peak load demands, take more carbon-emitting sources offline, and move Virginia closer to our 2050 100% zero-carbon requirements as mandated by the VCEA.⁶

POLICY RECOMMENDATIONS

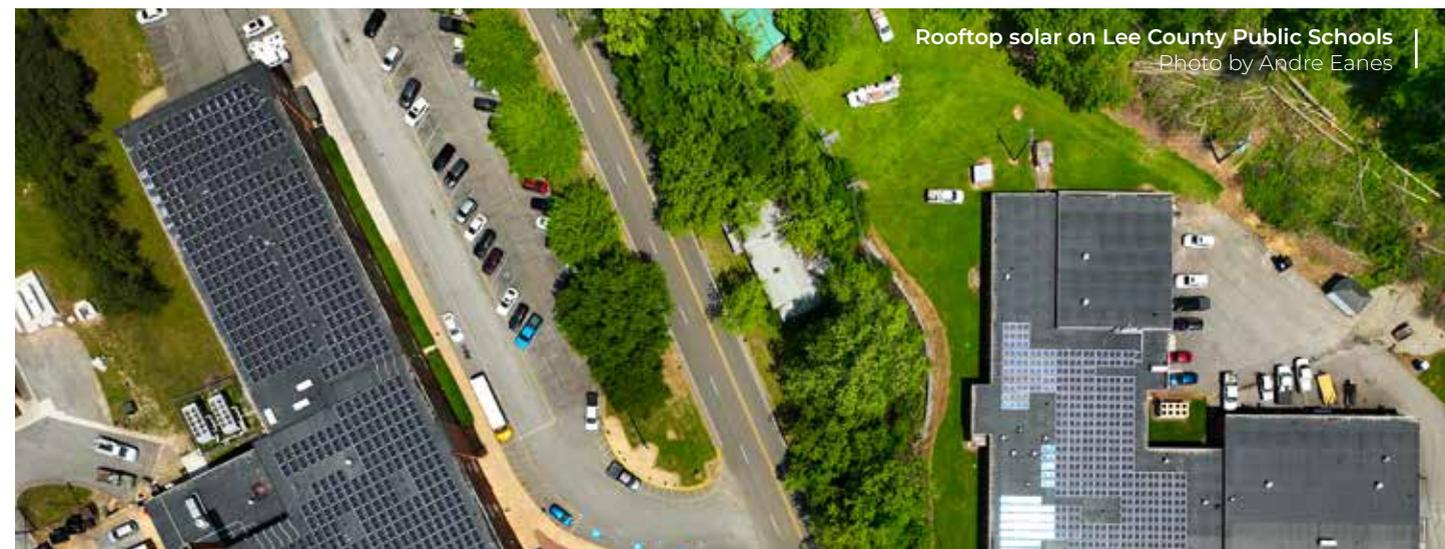
Increase net metering cap on distributed generation beyond 6% of the previous year's peak load and create state-level investment tax credit (with schools, municipalities, houses of worship and tribal governments receiving direct pay reimbursements) for rooftop solar.

Explicitly allow solar leasing.

Support the VA Department of Energy as it creates a program to disburse the Solar for All funds.

Authorize R-PACE to provide low-income Virginians with an additional option to go solar. Any R-PACE program must contain airtight consumer protection provisions that ensure customers are properly educated about the program and that they have the ability to pay the voluntary assessments.

Require net-zero energy standards and solar-ready roofs for new and majorly renovated schools, enabling renewable energy adoption and long-term savings.



Rooftop solar on Lee County Public Schools
Photo by Andre Eanes

EXPANDING ACCESS TO COMMUNITY SOLAR

RENEWABLE ENERGY & ENERGY EFFICIENCY

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EXECUTIVE SUMMARY

Community solar is an affordable renewable energy option for residents who cannot secure rooftop solar due to logistical constraints. However, the shared solar and multi-family shared solar programs are only available to customers of Dominion and Old Dominion Power and, due to the high minimum bill in the shared solar program, participation is disincentivized. In addition to these utility-shared solar programs, Dominion's "community" solar pilot program is fully subscribed,¹ and the community solar programs offered by electric cooperatives in Virginia have a higher cost/kWh than conventional energy.^{2,3} Several changes are needed to maximize the potential of shared or community solar in Virginia.

CHALLENGE

Many Virginians want to power their homes and businesses with clean, renewable solar power. However, not everyone has the capacity to put solar on their own rooftop due to ownership, capital, or other technical restraints. Community solar is a centralized solar facility capped at 5MW that many users can pay into and take advantage of the clean power. This size and funding model is critical for Virginia to hit the clean energy goals outlined in the Clean Economy Act. Unfortunately, due to policy constraints, community solar is mostly unattainable by Virginia consumers.

The biggest policy barrier for community solar is the \$55/month minimum, meaning consumers participating in community solar must pay a base of \$55 before any additional costs plus an additional \$10 - \$20 administration fee. When the State Corporation Commission (SCC) established this charge, they did not consider the benefits that shared solar facilities provide, including transmission system benefits, distribution system benefits, purchased power benefits, fuel factor benefits, economic benefits, and environmental benefits. This cost barrier makes

shared solar unattainable to most.

While the existing shared solar and multi-family shared solar programs are imperfect, Appalachian Power Company's 500,000 customers have no access to shared solar at all. That leaves a big opportunity on the table for Southwest Virginia, as the Inflation Reduction Act provides an additional 10% tax credit for solar projects located in coal country which will allow a wider range of ratepayers to save from solar energy.

APPALACHIAN POWER COMPANY'S 500,000 CUSTOMERS HAVE NO ACCESS TO COMMUNITY SOLAR AT ALL

Unproven cost shifting arguments by utilities,^{4,5} excessive infrastructure costs borne by solar developers,⁶ and lengthy interconnection processes^{7,8} further prevent community solar from being a viable part of Virginia's clean energy future. Additionally, parking lots, brownfields, and farms are often not utilized as part of the solution due to the increased costs needed to make the infrastructure viable. For example, while Southwest Virginia alone has over 71,000 acres of land impacted by coal mining that could be reclaimed for productive use hosting solar, these lands are more expensive to redevelop than the greenfields often prioritized by solar developers.

SOLUTION

Expanding the reach of Virginia's existing community solar programs, both for utility and electric cooperative customers, will ensure a more equitable clean energy transition. This can be achieved by reducing the minimum bill to ensure that Virginians of all income levels can participate in the program. In addition, expanding shared solar and multi-family shared solar into APCo's territory will break down barriers to solar for communities in Southwest Virginia.

The more that Virginia can use built structures for community solar, the less we use valuable greenfields, forests, and prime agricultural soil for large-scale solar. A forward-looking community solar policy incentivizes solar installations on parking lots, brownfields, landfills, and formerly mined lands to create additional value on built space. Further, a robust agrivoltaics policy helps farmers diversify their income and optimize land use by building solar in conjunction with crops and pasture.

In addition, community-scale solar can bypass the years-long PJM interconnection backlog and provide faster renewable energy to Virginia at a time of unprecedented growing demand.⁹ A streamlined and uniform interconnection process that shifts disproportionate infrastructure costs away from initial developers, reviews multiple projects simultaneously, and allows faster connection to the grid will further the immediate benefits of community solar to the Commonwealth. All of these topics should be included in a model ordinance that can help guide counties as they adopt ordinances for distributed solar.

POLICY RECOMMENDATIONS

Cap the minimum bill for community solar at an amount that will allow robust participation in the program for all Virginians. Require the SCC to consider the benefits of shared solar facilities alongside any potential cost shift.

Expand the shared solar and multi-family programs into APCo's territory. Low-income customers should be exempt from a minimum bill and limits should be placed on the minimum bill for all other customers.

Develop a model ordinance to guide counties in adopting updated solar ordinances for distributed generation.

Provide State Investment Tax Credit and Production Tax Credit for parking lot solar and agrivoltaics.

Streamline and lessen the cost burden for community solar interconnection process.

\$35M each year through Virginia Energy for the Virginia Brownfield and Coal Mine Renewable Energy Grant Fund and Program.

Thoughtfully designed solar arrays in Shenandoah, Va |
Photo by Wyatt Gordon



MAXIMIZING OFFSHORE WIND GENERATION

RENEWABLE ENERGY & ENERGY EFFICIENCY

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EXECUTIVE SUMMARY

The climate crisis demands rapid development of renewable energy resources, and offshore wind (OSW) has the potential to deliver upwards of 30% of Virginia's 100% clean energy standard. However, Virginia law supports only a small fraction of that standard generated by OSW. There is well over 10 GW of capacity in active and proposed projects just within the mid-Atlantic area that is most efficiently and logistically transmitting that OSW power to the larger PJM via entry into Virginia. For Virginia to realize the maximum economic and job creation benefits of OSW, ensure its equitable development, and quickly meet 100% clean energy goals, we must increase the amount of sustainably developed OSW in the public interest and require Virginia utilities to build and buy that total generation.

OFFSHORE WIND CAN DELIVER OVER 30% OF VIRGINIA'S 100% CLEAN ENERGY STANDARD

CHALLENGE

Virginia currently deems 5200 MW of OSW to be in the public interest, which Dominion is recommended to acquire through the Virginia Clean Economy Act (VCEA). The first phase of that total is satisfied with its Coastal Virginia Offshore Wind (CVOW), a \$10 billion dollar, 2600 MW project, that will be online in late 2026.

There are currently 27 commercial OSW lease projects in the Atlantic potentially delivering almost 39,000 MW of power to the grid.¹ CVOW is unique amongst them in being the only utility-owned project, where Dominion is both developer and "buyer" of all 2600 MW of Virginia's OSW. Coastal states north of Virginia have state-level OSW procurement commitments totaling 39 GW by 2040, supporting a competitive process that materializes in power purchase agreements with maximum benefits to both the state and its electricity consumers.

In mid-2024, the federal Bureau of Ocean Energy Management will auction off several new lease areas in the Central Atlantic for OSW development. Two large offshore areas (Call Areas C and D) are directly adjacent to CVOW and to Avangrid's Kitty Hawk 3600 MW project. If these call areas progress to final lease areas, there would be four lease areas that could easily bring 10,000 MW of OSW to Virginia.

To satisfy the VCEA requirement to develop 5,200 MW of OSW, Dominion has indicated interest² in these additional lease areas and is likely participating in the lease auction planned for early 2024. Just like with CVOW as it stands currently, pending approval by the State Corporation Commission, the costs to develop that additional OSW will be passed on to its ratepayers and Dominion allowed a profit margin on the multi-billion dollar project.

SOLUTION

The public's best interest can be best realized with increased production and generation of OSW, especially given OSW's massive economic and job creation benefits for Virginians, and its great capacity to confront the climate crisis in significant proportions. A number of large areas off Virginia's coast are in the planning process for development which easily provides that increased generation, allowing Virginia to increase OSW in the public interest from 5,200 MW to 10,000 MW.

Increasing the amount of OSW in the public interest must be coupled with requirements that the 10,000 MW is developed at the most competitive rates possible. This will ensure competitive costs for OSW, its development, and maximum benefits to Virginia electricity consumers.

POLICY RECOMMENDATIONS

Increase the amount of offshore wind deemed to be in the public interest from 5200 MW to 10,000 MW by 2030.

Require that the second tranche of CVOW be subject to a competitive procurement process.

Require Dominion to issue a competitive solicitation to contract or purchase the output of any offshore wind facilities not currently under development.

Offshore Wind Test Turbine – Virginia Beach, VA
Photo by Hunter Noffsinger





EXECUTIVE SUMMARIES & CONTACT INFORMATION

SURGING ENERGY DEMAND FROM DATA CENTERS

Data centers are large industrial buildings filled with computers that store, process, and distribute large amounts of digital information. Northern Virginia leads the world in data center development, housing nearly 50% of all US facilities. While data centers generate significant tax revenue for the localities in which they reside, they are also the primary driver behind a massive spike in peak electricity demand in Virginia, which through some estimates is projected to more than double by 2038. Virginia needs to chart a responsible path forward, balancing the growth of our digital world with the need to power that growth with affordable carbon-free energy.

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MANAGING TECHNOLOGIES UNPROVEN AT SCALE

As Virginia's industries and utilities work to power our communities with carbon-free energy, it is critical that our environment and consumers are protected as we consider technologies not yet proven at scale. There are serious environmental and consumer protection concerns associated with modular nuclear energy, hydrogen, and carbon capture and sequestration. These technologies are not commercially viable and the costs of development are almost orders of magnitude greater than already proven technologies such as wind, solar, and battery storage. Virginia should maintain focus on bringing these proven technologies to scale and not invest taxpayer or ratepayer resources into unproven technologies.

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PREVENTING PIPELINE HARMS

The poorly planned and constructed fracked-gas Mountain Valley Pipeline (MVP) currently harms Virginia's fragile water resources and ecosystems. Projects like MVP and the proposed Virginia Reliability Project perpetuate environmental injustice and hinder us from achieving the clean energy goals of our Commonwealth. The operation of these facilities is associated with the emission of methane, a potent greenhouse gas, as well as carbon dioxide emissions driven by end use, posing serious consequences to the climate. Ultimately, Virginia communities bear the brunt of negative public health impacts to water and air quality, along with economic harm to farmland and other critical agricultural lands. Virginia must strengthen protections for the water resources and communities jeopardized by fossil fuel infrastructure.

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DIRTY ENERGY INFRASTRUCTURE

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SURGING ENERGY DEMAND FROM DATA CENTERS

DIRTY ENERGY INFRASTRUCTURE

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CHALLENGE

Data storage needs have grown exponentially with the rise of the internet and new trends like Artificial Intelligence (AI), cryptocurrency, and the expansion of rural broadband have dramatically accelerated this pace. For a variety of reasons, including industry tax breaks, low costs, and an existing fiber network, Northern Virginia is

expected to continue to serve as a favorable location for new data centers. As a result, the industry's planned growth in the region is projected to more than double the state's peak electricity demand through 2038, according to PJM and Dominion Energy, the state's largest electricity provider (see graph below). This increase is by no means certain; Dominion Energy has a long track record of predicting far more growth than actually occurs, and uncertainty is even greater about data centers since the projections involve only one industry. While we should not accept these forecasts as guaranteed, we should take seriously the problems that such growth could cause and plan accordingly.

DATA CENTER DEVELOPMENT IS PROJECTED TO MORE THAN DOUBLE THE STATE'S PEAK ELECTRICITY DEMAND THROUGH 2038

In their latest long-term Integrated Resource Plan (IRP) filed in April, Dominion Energy has suggested meeting demand growth by building a substantial amount of renewable energy and storage. But this plan also proposes preserving existing coal and natural gas generation as well as building new fossil fuel generation and costly Small Modular Nuclear Reactors (SMNRs). This plan ignores Virginia's clean energy requirements and places a significant burden on families and other businesses to subsidize the construction and operation of the significant infrastructure necessary to meet the increase in electricity demand.

In addition to a massive increase in needed electric generation, data center growth will also require significant new transmission infrastructure. Just this past General Assembly session, legislation was passed recognizing a \$627 million emergency transmission project in response to the Northern Virginia data center cluster. Strain on the grid has also brought an increased use of diesel generators which serve as

the backup power source for data centers, raising concerns about local air quality.

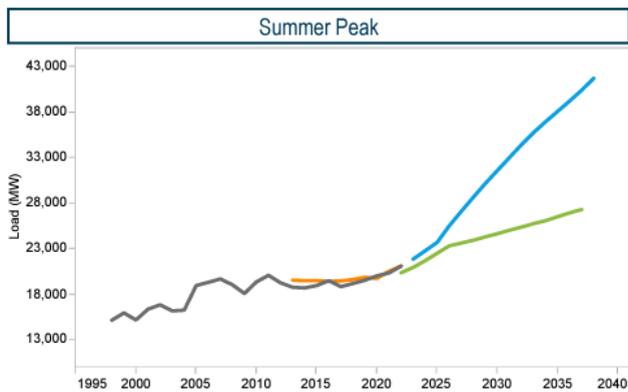
Currently, data centers are approved at the town/city/county level. The local process does not address cumulative state and regional level impacts on Virginia's energy grid, natural resources and land use (see MITIGATING DATA CENTER DEVELOPMENT, pg 57). Without significant state oversight and planning, Virginia could face unsustainable energy demand, potentially leading our utilities to pursue unnecessary generation projects, including fossil fuel generation in direct opposition to clean energy policies.

SOLUTION

This level of data center expansion is a new and global trend of which Virginia is at the forefront. If Virginia is to continue recruiting this industry, numerous questions must be answered to determine a sustainable path forward.

While data centers are an important part of Virginia's economic development plan, that plan must align with our ability to protect the environment and provide for a clean, affordable energy transition for all. Virginia is facing an unprecedented energy challenge with explosive growth in this sector. Proper planning can offset some of the anticipated impacts, and we can take steps now to provide appropriate cost allocation, ensuring responsible parties are paying for the necessary upgrades to our electric system. But in order to develop a holistic and sustainable solution, we need to establish a proper accounting of the externalities of the industry.

A comprehensive study is necessary to illustrate the opportunities and challenges related to different scenarios for buildout of the data industry in Virginia. This study should address energy demand and gauge our ability to meet our goal of a clean energy transition while avoiding unnecessary impacts on communities and natural resources.



The January 2023 PJM Load Forecast projects that the data center industry's planned growth in the region will more than double the state's peak electricity demand through 2038 (blue line).

POLICY RECOMMENDATIONS

An Independent Study: Contract with an independent body like the National Academy of Sciences to study all costs and benefits of the data center industry. Specifically related to energy demand it should evaluate impacts to the grid and our ability to reliably meet demand with carbon-free energy resources. It should integrate efforts of the industry to improve efficiency and procure clean energy so as to avoid duplication of efforts by our utilities and highlight impacts to ratepayers.

Permitting, Planning, and Education: Implement a state review process for new proposals. A review of individual projects that fails to account for the aggregate impacts of all projects invariably means that no one fully appreciates the total picture. The Department of Energy, in coordination with the Department of Environmental Quality, should provide assistance to local governments, including siting criteria information related to the necessary energy infrastructure to power the project.

Protect from Cost Shift: The rules governing approval and allocation of costs for new transmission and generation approval should be examined and – if necessary – changed to ensure that parties causing investments bear the costs of those investments, preventing residential energy customers from shouldering this burden.

MANAGING TECHNOLOGIES UNPROVEN AT SCALE

DIRTY ENERGY INFRASTRUCTURE

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EXECUTIVE SUMMARY

As Virginia's industries and utilities work to power our communities with carbon-free energy, it is critical that our environment and consumers are protected as we consider technologies not yet proven at scale. There are serious environmental and consumer protection concerns associated with modular nuclear energy, hydrogen, and carbon capture and sequestration. These technologies are not commercially viable and the costs of development are almost orders of magnitude greater than already proven technologies such as wind, solar, and battery storage.¹ Virginia should maintain focus on bringing these proven technologies to scale and not invest taxpayer or ratepayer resources into unproven technologies.

CHALLENGE

While the costs of wind and solar have plummeted in recent years, the costs of nuclear – particularly modular reactors – are trending in the opposite direction, leaving it unproven at scale.² There are no modular nuclear reactors currently in commercial operation in the US.³ The current leading proposal – set to be completed in 2029 – recently announced that its estimated costs have risen from \$5.3 billion to \$9.3 billion, for a total of only 462 MW capacity.⁴

Hydrogen is also extremely costly and energy-intensive to produce. It takes a significant amount of energy to produce hydrogen. Green hydrogen, using clean energy to generate hydrogen to then burn for electricity generation is duplicative and wasteful – not to mention the fact that there is currently not a surplus of clean energy on the grid. Research suggests green hydrogen can require 2 to 14 times more energy than available alternatives that use direct electrification, meaning it doesn't make sense to divert clean energy from the electrical grid to make hydrogen for uses where clean electricity can serve these energy needs directly.¹ While green hydrogen may have a future

role in replacing natural gas as a manufacturing feedstock or in aviation, hydrogen should not be used for electricity generation or in homes.

MODULAR NUCLEAR REACTORS AND HYDROGEN ARE STILL UNPROVEN WITH SIGNIFICANT UNANSWERED COST AND SAFETY CONCERNS

Despite these facts, Virginia's 2023 legislative saw numerous bills to prematurely codify and embed these technologies into the state's energy policy. Existing law in Virginia, thanks to the Virginia Clean Economy Act of 2020 (see ACHIEVING 100% CLEAN ENERGY, page 89), already permits existing nuclear and emerging technologies if and when they become safe and commercially viable. Currently, modular nuclear reactors and hydrogen are still unproven with significant unanswered cost and safety concerns, and therefore additional policy leverage should not be given at this time.²

SOLUTION

As technologies evolve that might eventually play a role in the clean energy transition, the environment and ratepayers should not bear the brunt of the risks of these unproven solutions. By prematurely propping up these technologies, Virginia could risk facing the financial and environmental crises that have plagued other states whose deliberations were inadequate.³

As new technologies appear, lawmakers in partnership with state agencies should 1) engage in deep research and education about the topics, 2) compare and contrast the proposals and their results in other states, 3) prioritize environmental protections and environmental justice, 4) protect captive ratepayers from the economic risks associated with speculative development of unproven technologies, and 5) avoid prematurely codifying terms and processes that could advance unproven tech.

The solution to uplifting new technologies is ultimately to allow private markets, private industries, and private investors to take on the risk of assessing the viability of such technologies – including their environmental risk – with strong regulatory and government oversight. The ratepayers and taxpayers of Virginia don't need to pay for the research and development of unproven technologies – this is the role of private investors.

In closing, no modular nuclear reactors are currently powering the electric grid in the US and there is not enough green hydrogen to power anything cleanly. Clean, cheaper wind and solar are available now, operating, and working to power our communities while providing drastic emissions reductions and delivering powerful economic benefits to the communities they operate in and around.

POLICY RECOMMENDATIONS

Prioritize existing affordable, clean, renewable energy resources instead of unproven resources that have extremely high – and rising – costs.

Shield ratepayers and taxpayers from the cost of researching and/or constructing unproven technologies like modular nuclear and hydrogen.

Prevent non-renewable technologies from inclusion in Virginia's renewable portfolio standard as that will disrupt Virginia's thriving solar and wind industry.

Differentiate between green, brown, pink, and other forms of hydrogen in any hydrogen-related policies.

Do not consider hydrogen for electricity generation or the powering of homes.

Modular nuclear reactors are proposed to be located in Southwest Virginia – Coeburn Powell Valley

Photo by Andre Eanes



PREVENTING PIPELINE HARMS

DIRTY ENERGY INFRASTRUCTURE

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EXECUTIVE SUMMARY

The poorly planned and constructed fracked-gas Mountain Valley Pipeline (MVP) currently harms Virginia's fragile water resources and ecosystems.¹ Projects like MVP and the proposed Virginia Reliability Project perpetuate environmental injustice and hinder us from achieving the clean energy goals of our Commonwealth. The operation of these facilities is associated with the emission of methane, a potent greenhouse gas, as well as carbon dioxide emissions driven by end use, posing serious consequences to the climate. Ultimately, Virginia communities bear the brunt of negative public health impacts to water and air quality, along with economic harm to farmland and other critical agricultural lands. Virginia must strengthen protections for the water resources and communities jeopardized by fossil fuel infrastructure.

CHALLENGE

Continued expansion of fossil fuel infrastructure is at odds with a healthy future for the Commonwealth, and it runs counter to climate mitigation measures recommended by the Intergovernmental Panel on Climate Change (IPCC).² Although Virginia has passed laws to promote clean energy and improve accountability measures, new fossil-fuel infrastructure projects continue to be licensed and ultimately harm Virginia communities. Water and air pollution from fossil fuel infrastructure impedes the historic goals set in federal and state laws, and the resulting harms tend to fall disproportionately on Black, Indigenous, low-income, and elderly communities.³

THE MOUNTAIN VALLEY PIPELINE COULD EMIT NEARLY 1% OF ALL US ENERGY SECTOR GREENHOUSE GAS EMISSIONS

Representative of the overbuilding and inappropriate siting of pipeline projects, the Mountain Valley Pipeline has accrued 350+

violations,⁴ and has the potential to emit greenhouse gasses on a scale comparable to over 18 coal-fired power plants.⁵ Construction of the project has wrought significant harm on local environments, damaged Indigenous cultural and sacred sites,⁶ and negatively impacted rural communities and residents' livelihoods. Additionally, the pipeline could be responsible for nearly 1% of all US energy sector greenhouse gas emissions.⁷

MVP received unprecedented Congressional interference in 2023 in the Fiscal Responsibility Act, which required the approval of missing federal authorizations and attempted to remove opportunities for judicial review.⁸ This sacrifice of Appalachia will increase damage to Southwest Virginia and set a dangerous precedent for Virginia's ability to protect its natural resources.

New pipeline expansion projects proposed for Eastern Virginia, like the 'Virginia Reliability Project,' raise concerns about construction through areas overburdened with existing infrastructure and pollution.⁹ Effects on wetlands and private wells – especially in areas prone to recurrent flooding and sea level rise – are concerning, as are potential impacts to the Nansemond River and Great Dismal Swamp, important cultural resources of the Nansemond Tribe.¹⁰

SOLUTION

Fossil fuels are the energy of Virginia's past, not our future. Given the steps necessary to mitigate the worsening climate crisis, the critical point we have reached in that crisis, and the potential for a robust clean energy future for the Commonwealth, new fossil fuel infrastructure should not be pursued. We have learned from projects like the Mountain Valley Pipeline that current laws and regulations do not adequately protect water resources, public health or the environment from the construction of new fossil fuel infrastructure. MVP's violations

highlight the perils of construction in fragile karst landscapes and through seismic zones and reinforce the need for agencies to hear from local communities about the real-world impacts they experience from pipeline construction.

Absent a ban, any new fossil fuel build out, including both interstate and intrastate pipelines, must be thoroughly and holistically scrutinized through processes that fully engage and respect the public's views and interests. Fossil fuel projects should receive a comprehensive review, including cumulative health and environmental impacts on nearby communities. For projects already in process, enforcement of pollution laws must be prioritized, and companies who pollute must be held fully accountable, regardless of project completion or abandonment. Review processes should include bonding requirements for appropriate funding or insurance coverage, and include stringent environmental restoration requirements.

Virginia lawmakers should strengthen state review of projects and increase public involvement and participation in those reviews and streamline opportunities to report problems. Ultimately, policy improvements are required to

accurately recognize the current climate crisis, prevent future harm, and protect and restore communities and areas negatively impacted by existing projects.

POLICY RECOMMENDATIONS

Include bonding and restoration requirements in permit applications for fossil fuel projects.

Require an individual Virginia Water Protection Permit and Uplands Certification under Article 2.6 of the State Water Control Law for all natural gas transmission pipelines 24 inches in diameter and greater that are subject to § 7c of the Natural Gas Act.

Prohibit new fossil fuel construction in areas of karst terrain.

Strengthen opportunities for the public to report on-the-ground construction failures to the DEQ.

Require DEQ approval for pipeline variances submitted to the Federal Energy Regulatory Commission that could affect Virginia water quality, or impact the 401 certification (as allowed by federal law).

The Mountain Valley Pipeline could cut through Virginia's national & state parks, protected streams, and viewsheds – Blue Ridge Parkway
Photo by Rachel Kingery



GOOD GOVERNANCE

None of the conservation efforts detailed in Our Common Agenda can be realized without an equitable and inclusive government. Policies and programs must represent and benefit all Virginians and should not cause disproportionate harm to low-income communities and communities of color, core programs and agencies should be fully staffed and funded, and people - not utilities - should have a voice in the halls of Richmond.

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EXECUTIVE SUMMARIES & CONTACT INFORMATION

SHIFTING UTILITIES' INCENTIVES FOR AFFORDABLE, CLEAN ENERGY

Virginia's largest investor-owned utility (IOU) monopolies are currently incentivized to prioritize capital-intensive investments, which puts their profit motive at odds with cutting costs for consumers and meeting their mandated clean energy goals. Aligning utilities' profit incentives with sustainability goals, such as the interconnection of distributed resources, grid reliability, and efficiency measures, can facilitate a swift and affordable clean energy transition that advances least-cost solutions.

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ENSURING ACCESS TO ESSENTIAL UTILITIES

Access to energy and water utilities is essential for human health and well-being. However, clean water and the ability to light, heat, and cool a home are not guaranteed for underprivileged households in Virginia. By modeling policy approaches in other southeastern states, Virginia can establish important protections for vulnerable households and reduce utility burdens for the long-term. In doing so, we can promote public health and ensure more equitable outcomes when a household's access to these vital services is in jeopardy due to unaffordable bills.

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CURBING ELECTRIC UTILITIES' POLITICAL INFLUENCE

Virginia's electric utilities have an undeniable influence in shaping energy policy through their monopoly status and unrestricted financial contributions to lawmakers. Dominion Energy, Virginia's largest utility monopoly and largest corporate donor, gives unlimited money directly to the lawmakers in charge of regulating them. This flawed system drowns out the voices of everyday Virginians and opens the door for Dominion Energy to regulate itself. It is time we shift more political power to Virginians by banning political contributions from electric utilities to the very lawmakers responsible for regulating them.

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UTILITY ACCOUNTABILITY

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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SHIFTING UTILITIES' INCENTIVES FOR AFFORDABLE, CLEAN ENERGY

UTILITY ACCOUNTABILITY

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EXECUTIVE SUMMARY

Virginia's largest investor-owned utility (IOU) monopolies are currently incentivized to prioritize capital-intensive investments, which puts their profit motive at odds with cutting costs for consumers and meeting their mandated clean energy goals. Aligning utilities' profit incentives with sustainability goals, such as the interconnection of distributed resources, grid reliability, and efficiency measures, can facilitate a swift and affordable clean energy transition that advances least-cost solutions.

CHALLENGE

Virginians pay some of the highest energy prices in the nation, which disproportionately impacts low-income households and historically marginalized communities.^{1,2,3} High energy costs are tied to the regulations of Virginia's investor-owned utility (IOU) monopolies that reward utilities for capital-intensive investments rather than cost-saving measures – i.e., the more expensive a project is, the more profits the utility collects.⁴

HIGH ENERGY BILLS ARE TIED TO REGULATIONS THAT PROFIT OUR INVESTOR-OWNED UTILITY MONOPOLIES FOR EXPENSIVE INVESTMENTS RATHER THAN COST-SAVING MEASURES

Under the current regulations, reducing energy usage with energy efficiency and expanding customer-owned distributed resources like rooftop solar conflict with utilities' profit sources: building capital and selling electricity.⁵ Utilities' incentives also conflict with buying clean energy from third-party developers through purchase agreements (PPAs) even when PPAs are less expensive than utility-owned projects.

Additionally, although utility monopolies' regulation should simulate competitive incentives for cost reduction, the current framework undermines cost control incentives.⁶ A salient example is the usage of cost trackers – called rate

adjustment clauses (RACs) in Virginia. Trackers allow utilities to recover costs and profits with zero risk to the IOUs, which removes incentives for efficient spending.⁷ Experts suggest restricting trackers to a few selected costs,^{8,9} yet trackers are around 50% of IOUs customers' electric bills.¹⁰ The fuel factor, for example, is a tracker that allows utilities to pass all fossil fuel costs to customers without affecting the utility's profits, reducing the financial urge for minimizing fossil fuel expenses.¹¹

Recent legislation improved Virginia's regulations by restoring the State Corporation Commission's authority to prevent customer overcharges.¹² However, strong incentives for inefficient spending, that threaten an affordable clean energy transition, remain in Virginia's code.

SOLUTION

Virginia should further improve IOUs' regulations to guarantee affordability while transitioning towards 100% clean energy. Needed improvements include lifting the cap on PPAs and shifting towards performance-based regulations that better align utility profits with affordability and environmental goals.

The cost of PPAs for utility-scale solar has dramatically declined nationwide.¹³ However, utilities have argued that the Virginia Clean Economy Act caps PPAs at 35% of the clean energy requirements. Thus, utilities do not consider PPAs beyond 35%, even when there are qualified PPAs that would be less expensive than utility-owned projects.¹⁴ To reduce clean energy costs, utilities should consider all qualified and cost-competitive PPAs.

Multiple states are studying broader reforms to utilities' incentives through performance-based regulation (PBR). PBR shifts utilities' exclusive focus on expensive capital projects towards other critical goals by creating financial incentives.¹⁵ Connecticut, Hawaii, Illinois, North Carolina, and Washington, among others, have initiated regulatory reforms to connect utility profits

with goals like decarbonization, affordability, interconnection of distributed resources, and energy efficiency.¹⁶

For a successful PBR framework, it is crucial to also address the role of RACs or trackers in undermining cost control incentives. Virginia should align with regulatory best practices that suggest mainly using the base rate instead of trackers, to incentivize cost containment. Some states have also reformed the fuel factor, making IOUs responsible for part of fossil fuel costs, incentivizing greater control of fossil fuel expenses.¹⁷

Exploring reforms to Virginia's IOUs incentives system will help ensure that an affordable, reliable, and equitable clean energy future is achievable.

Properly regulating utility monopolies will lower families' energy bills
Photo by Paul-Michael Ferguson

POLICY RECOMMENDATIONS

Remove the 35% cap on power purchase agreements to allow all available, qualified, and cost-competitive PPAs to compete for being part of Virginia's energy mix.

Implement a cost-sharing mechanism that splits the risks of fossil fuel costs and price volatility between utilities and electricity customers.

The State Corporation Commission and Virginia Energy should study regulatory reforms that address disincentives for cost containment and include compensation for IOUs based on environmental and social outcomes rather than a project's price.



ENSURING ACCESS TO ESSENTIAL UTILITIES

UTILITY ACCOUNTABILITY

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EXECUTIVE SUMMARY

Access to energy and water utilities is essential for human health and well-being. However, clean water and the ability to light, heat, and cool a home are not guaranteed for underprivileged households in Virginia. By modeling policy approaches in other southeastern states,¹ Virginia can establish important protections for vulnerable households and reduce utility burdens for the long-term. In doing so, we can promote public health and ensure more equitable outcomes when a household's access to these vital services is in jeopardy due to unaffordable bills.²

CHALLENGE

Virginia has 33 electric utilities, 8 gas utilities, and more than 50 water and wastewater utilities, each with its own consumer protections and disparate regulatory oversight. Some utilities are regulated by the State Corporation Commission and others by municipal governments. While this regulatory structure provides utilities the flexibility to serve the unique needs of customers within a given service area, it also means that vulnerable low-income households are unfairly subject to differing consumer protection policies.

Enduring legacies of structural racism mean that energy burdens are also disproportionately felt by households of color. For example, Black and Brown households were more likely to lose power during the early months of the COVID-19 pandemic than white households.³ Even more recently, residential customers are experiencing increases in energy bills, which exacerbates the already high energy burden for many. This increases a household's chances of being disconnected, putting many in the position of choosing to pay the power bill or to buy necessities like food, rent, and healthcare.

THERE ARE NO BINDING POLICIES THAT ENSURE WATER ACCESS IN VIRGINIA

Although the Virginia General Assembly passed a resolution in 2021 recognizing that water disconnections are “contrary to promoting public health and welfare,” there are no binding policies that specifically ensure water access in the state.⁴

Virginia residents:

- Have some of the least consumer-friendly disconnection policies of any state in the Southeast.⁵
- Are only eligible for the Low Income Household Water Assistance Program in certain jurisdictions.⁶
- Pay some of the highest electric bills in the nation.⁷
- Face high energy burdens (with 75% of households spending over 6% of monthly income on energy bills)⁸ and increasing water rates (in several jurisdictions).^{9,10}

SOLUTION

Affordability and access can be addressed through short and long-term approaches, many of which have been successfully implemented in other states, including weather-based disconnection policies,¹¹ low-income energy efficiency and solar programs, low-income rates, and debt management plans.

After the Illinois Citizen Utility Board found that low-income customers use less on-peak energy than the average customer, and thus pay more to the utility than the cost of the power they use,¹² Illinois directed the Public Utility Commission to explore discounted rates for low-income gas and electric customers.¹³ Ohio, Pennsylvania, and Illinois enroll income-qualifying customers in a Percentage of Income Payment Plan (PIPP). PIPP is a long-term payment plan that sets caps on customer bills and can include debt forgiveness and energy conservation incentives. Virginia's 2020 Clean Economy Act mandated that the state's two largest investor-owned electric companies implement PIPPs, which will begin

operating November 2023 (though the program has not been expanded to electric cooperatives and municipal utilities). And many states are developing new clean energy programs focused on alleviating financial burdens for low-income households.¹⁴

Virginia should standardize disconnection policies across all electric, gas, and water utility service areas; limit the financial consequences for late payments, non-payments, or disconnections and reconnections; and establish payment programs, new rate structures, and clean energy programs that bring stability and certainty to vulnerable low-income households. Ultimately, by addressing the overall burden that many households face in accessing these essential utilities, we can help ensure that energy and water services are affordable for more people.¹⁵

Access to essential utilities is critical during extreme weather – Albemarle, Va
Photo by Cassidy Girvin



POLICY RECOMMENDATIONS

Establish utility disconnection policies for extreme weather, public health emergencies, and when vulnerable residents (e.g., medically compromised, infants) are at risk.

Require utilities to report annual disconnections data to the SCC (while ensuring consumer data protections).

Require unregulated utilities to offer low-income payment plans that do not involve deposits, penalties (e.g., late fees, interest), or eligibility criteria (e.g., credit ratings).

Support low-income energy efficiency programs for homeowners and renters (see CUTTING ENERGY BILLS & AIR POLLUTION WITH ENERGY EFFICIENCY, page 95).

CURBING ELECTRIC UTILITIES' POLITICAL INFLUENCE

UTILITY ACCOUNTABILITY

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EXECUTIVE SUMMARY

Virginia's electric utilities have an undeniable influence in shaping energy policy through their monopoly status and unrestricted financial contributions to lawmakers. Dominion Energy, Virginia's largest utility monopoly and largest corporate donor,¹ gives unlimited money directly to the lawmakers in charge of regulating them. This flawed system drowns out the voices of everyday Virginians and opens the door for Dominion Energy to regulate itself. It is time we shift more political power to Virginians by banning political contributions from electric utilities to the very lawmakers responsible for regulating them.

CHALLENGE

Virginia grants investor-owned electric utilities, Dominion Energy and Appalachian Power Company, a monopoly in their respective service territories. In exchange for a captive customer base, Virginians are entitled to diligent regulation and oversight by the General Assembly. Instead, Virginia's abysmal lack of campaign finance and ethics laws permits Virginia's utility monopolies to pour millions of dollars into Virginia politics each year. These electric utilities give large sums to the chairs of powerful legislative committees. Under current law, legislators are free to use these campaign funds for their personal benefit. For example, there are no prohibitions from using campaign funds to pay your mortgage, buy a car, or pay your child's college tuition. Further, lawmakers can own stock in these corporations and vote on measures that can potentially increase their personal wealth.

VIRGINIA'S UTILITY MONOPOLIES TO POUR MILLIONS OF DOLLARS INTO VIRGINIA POLITICS EACH YEAR TO INFLUENCE PUBLIC POLICY

Virginia's electric utility monopolies alone have donated \$27.7 million² to Virginia legislators and committees since 1996 to influence public policy

in their favor. Utilities often wield the influence and political power these contributions bring against the interests of Virginians. Specifically, Dominion and Appalachian Power often lobby against more distributed and affordable renewable energy measures like rooftop solar and stronger regulatory oversight from the State Corporation Commission (SCC). As a result, Virginians pay some of the highest electric bills in the nation, which disproportionately impacts low-income households and historically marginalized communities.³ Additionally, Virginia's captive customers have no choice but to subsidize their electricity provider's political spending every time they pay their monthly bills.

This severe power imbalance and system of self-regulation make it difficult, if not impossible, for Virginians to have a meaningful say in energy policies that directly impact them.

SOLUTION

Virginians would benefit from a more equitable and fair legislative process that ends what is essentially legalized corruption by banning political contributions from publicly regulated utilities. Publicly regulated utilities are a specific set of 60 corporations in Virginia that provide public services - electricity, gas, water, and sewer - and have been granted a monopoly by the state. Over half the country bans these kinds of political contributions in some form and 22 states ban corporate contributions altogether.⁴ Prohibiting public utility monopolies from contributing to the political campaigns and committees of lawmakers would help restore balance to Virginians' political power by shrinking the outsized influence of electric utilities on the legislative process.

Further, legislators should be prohibited from using campaign funds for personal use as recommended by the Joint Subcommittee to Study Comprehensive Campaign Finance

Reform. Virginia is behind nearly all other states and the Federal Government in banning the personal use of campaign funds. There is currently nothing stopping a legislator or candidate from using campaign funds to buy a vacation house or a country club membership. Virginians have a right to be assured by statute that their elected officials are not personally profiting from running for office.

Richmond in a Fog

Photo by Lucas Manweiler

POLICY RECOMMENDATIONS

Prohibit public utility monopolies in Virginia from contributing to the political campaigns and committees of the government officials who are tasked with regulating them.

Ban members of the General Assembly from owning stock in any public investor-owned electric utility.

Prohibit General Assembly members from using campaign contributions for personal use.





EXECUTIVE SUMMARIES & CONTACT INFORMATION

ADVANCING ENVIRONMENTAL JUSTICE

Throughout the nation and in Virginia, low-income and communities of color have borne the brunt of environmental harm from energy, industry, and agricultural development. Present and future climate impacts will only exacerbate this inequity. In 2020, Virginia passed the landmark Virginia Environmental Justice Act (VEJA) along with other legislation promoting environmental justice. However, draft guidance promulgated by the Department of Environmental Quality (DEQ) shows more work is needed to develop inclusive agency policies, ensure the meaningful involvement of environmental justice communities in permitting processes, and equitably distribute the benefits and burdens of economic development and environmental protection.

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SUPPORTING VIRGINIA'S EDUCATION WORKFORCE

School divisions in the Commonwealth are facing a deluge of teacher turnover, faculty shortages, and workload demand as school systems recover from the COVID-19 pandemic. New and returning educators need reliable professional development support to overcome these challenges, while school districts need additional support in reaching their environmental literacy goals, such as providing Meaningful Watershed Educational Experiences in each grade band. With a fund dedicated to paying teachers for the personal time they invest in professional development and supporting school districts in achieving their environmental literacy goals, Virginia can help retain and grow the skill set of our best teachers.

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ENVIRONMENTAL EQUITY

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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ADVANCING ENVIRONMENTAL JUSTICE

ENVIRONMENTAL EQUITY

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EXECUTIVE SUMMARY

Throughout the nation and in Virginia, low-income and communities of color have borne the brunt of environmental harm from energy, industry, and agricultural development. Present and future climate impacts will only exacerbate this inequity. In 2020, Virginia passed the landmark Virginia Environmental Justice Act (VEJA) along with other legislation promoting environmental justice. However, draft guidance promulgated by the Department of Environmental Quality (DEQ) shows more work is needed to develop inclusive agency policies, ensure the meaningful involvement of environmental justice communities in permitting processes, and equitably distribute the benefits and burdens of economic development and environmental protection.

CHALLENGE

Polluting facilities and other environmental hazards are more likely to be sited near marginalized communities, particularly low-income and communities of color,¹ creating disproportionate risks to their health and well-being. The VEJA attempts to address inequities by centering these communities during any environmental decision-making process, and thankfully, some progress has been made. In 2021, the State Air Pollution Control Board denied a permit for a compressor station in an African American community in Pittsylvania County – the first time the Board denied a permit on the basis of environmental justice.² In 2022, the James River Water Authority abandoned its effort to build a raw water intake on a sacred Monacan heritage site.³

However, Virginia has seen major setbacks in recent years. The DEQ 2023 draft guidance for environmental justice in the permitting process fell woefully short of the VEJA's mandate to promote environmental justice throughout state policy.⁵ In 2022, the VEJA's meaningful involvement provision was eroded when permitting authority was transferred from Virginia's natural resource Citizen Boards to DEQ. Additionally, the Virginia Council on Environmental Justice, a citizen advisory council of the Secretary of Natural and Historic Resources, has a significant number of vacant positions, leaving many regions and constituencies without a voice in key environmental discussions.

In 2023, Congress circumvented judicial processes to advance the controversial Mountain Valley Pipeline despite permit denials and local pushback. In Richmond and Virginia Beach, commercial sterilizers are emitting ethylene oxide, a harmful gas that increases cancer risk; the Environmental Protection Agency is issuing new rules due to its toxicity.⁶ A mega-landfill is being proposed adjacent to Pine Grove Elementary School, a historic African American schoolhouse in Cumberland County.⁷ Planned gas pipeline projects with compressor stations in Prince George County and Petersburg would expose residents to increased air pollution,⁸ and a proposed gold mine could threaten water quality across Central Virginia.⁹

SOLUTION

State agencies have an outsized effect on Virginia's environmental justice communities through the permitting process and other activities. Agencies that impact public health or the environment should be required to develop and implement official policies that

identify environmental justice communities, contain robust public participation plans for decision-making processes, and require the agency to consider the effects of its actions on environmental justice communities.

As Virginia's lead environmental agency, DEQ must promote and further environmental justice in all of its actions. However, DEQ's recent draft permitting guidance reviewed only ten "permits of concern" for environmental justice, rather than considering the cumulative impacts of pollution on communities from all permitted activities. DEQ must reevaluate the positions articulated in its latest draft guidance to ensure it meets the standards laid out in the VEJA.

Finally, the Virginia Council on Environmental Justice cannot support the mission of the VEJA without additional support. Due to the unique circumstances of this Council, which is specifically set up to share the perspectives of environmental justice groups across the state, the Council should be permitted to meet in a virtual or hybrid setting to conduct its business without putting undue burdens on its members.



American Lady Butterfly (*Vanessa cardui*)
Photo by Matthew Brazier

POLICY RECOMMENDATIONS

Fill all vacant positions to maintain the integrity and independence of the Virginia Council on Environmental Justice; allow virtual or hybrid Council meetings.

Require DEQ to put forth environmental justice permitting guidance that is consistent with the Virginia Environmental Justice Act.

Establish an Interagency Task Force for Environmental Justice, including the Secretariats of Natural and Historic Resources, Transportation, Commerce and Trade, Agriculture and Forestry, Health and Human Resources, and Emergency Management to track cumulative impacts and develop and implement official environmental justice policies.

Require all agencies to consult with members of affected environmental justice communities and Tribal Nations early in environmental permitting. Provide meaningful involvement opportunities throughout the permitting process through pre-application notices, public meetings, and communications using methods tailored to affected communities.

Ensure agencies consider whether the issuance of a permit would cause disproportionate adverse impacts on an environmental justice community. Encourage agencies to use their existing powers to require alternative sites or deny permits where appropriate.

THE VIRGINIA ENVIRONMENTAL JUSTICE ACT DEFINES ENVIRONMENTAL JUSTICE AS:

"The fair treatment and meaningful involvement of every person, regardless of race, color, national origin, income, faith, or disability, regarding the development, implementation, or enforcement of any environmental law, regulation, or policy."⁴

SUPPORTING VIRGINIA'S EDUCATION WORKFORCE

ENVIRONMENTAL EQUITY

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EXECUTIVE SUMMARY

School divisions in the Commonwealth are facing a deluge of teacher turnover, faculty shortages, and workload demand as school systems recover from the COVID-19 pandemic. New and returning educators need reliable professional development support to overcome these challenges, while school districts need additional support in reaching their environmental literacy goals, such as providing Meaningful Watershed Educational Experiences in each grade band. With a fund dedicated to paying teachers for the personal time they invest in professional development and supporting school districts in achieving their environmental literacy goals, Virginia can help retain and grow the skill set of our best teachers.

CHALLENGE

Teachers report being overwhelmed with the demands of teaching, especially as student emotional needs have increased and learning retention has reduced due to the social impacts of the COVID-19 pandemic. In Virginia, “only 78.9% of teachers returned to their same school in fall 2021”¹ which was a significant decrease from 2020. “Teacher turnover creates a constant drain on funding. When hard-to-staff school districts spend a portion of their funds on attrition, they have less money available for curriculum, enrichment programs, mental health support, school-based support staff, and other resources that can support students. Essentially, students pay the price for the ongoing teacher exodus.”²

PROFESSIONAL DEVELOPMENT PROVIDERS NOTE THAT TEACHERS ARE INCREASINGLY ONLY PARTICIPATING IF THEY ARE PAID FOR THEIR TIME

Because of the decrease in teacher retention, school districts must seek alternative routes for teacher attrition, which can include hiring inexperienced or underqualified teachers. Professional development (PD) is essential

to creating effective teachers, especially when teachers are being recruited from non-traditional avenues or alternative professions in the education field. However, professional development providers have noted that teachers are increasingly only participating in PD if they are compensated for their time. Many PDs are offered outside of school contract hours. In the past, teachers have not typically been compensated for attending additional training, but there is a shift in this paradigm.

Additionally, teachers are filling roles typically filled by administrators, such as being the unofficial planner of field experiences or support persons for environmental literacy plans. Similar to professional development, these roles are not compensated, even though they take up significant time. Especially in smaller or under-resourced districts, there is often no administrative personnel to take on these roles. These extra roles contribute to teachers feeling overwhelmed, especially when they are not compensated for these duties.

SOLUTION

Research suggests that investing in teachers makes a difference in student achievement. In order to implement needed policies associated with staffing every classroom — even the most challenging ones — with high-quality, well-supported teachers, substantial and targeted investments must first be made in both teacher quality and education research.³ Education policymakers and administrators should be well informed on the complexity of this issue and adopt holistic measures along many dimensions to support existing teachers through professional development funds, which will help to attract and hire new, highly qualified teachers.

To support statewide and under-resourced school districts, “substantial and targeted investments must first be made in both teacher quality and education research.”⁴ Teachers and

future qualified educators need additional resources to compensate for time outside of the classroom in Professional Development and time spent on coordinating science literacy lessons and field experiences.

To help school districts implement environmental literacy goals, the fund would support a local or regionally-hired coordinator to lift some administrative burden from teachers as they navigate classroom capacity challenges. The environmental literacy coordinator would ideally take care of program coordination, scheduling, reporting, curriculum sharing, and other administrative tasks which support the coordination of environmental literacy plans in school districts. The coordinator’s acquired (and/or incumbent) familiarity with local environmental programs, organizations, and other outreach skills would not only support teachers administratively but would also secure reliability for the continuous pursuit of environmental literacy programs as schools encounter faculty turn-over, ensuring that those programs are seen to completion.

The environmental literacy coordinator would look different in different divisions. Some divisions might opt to compensate a teacher or administrator who already serves in this capacity. Some might find they need an FTE based on their size and needs. Other divisions might want to collaborate with an NGO that could provide the expertise and support. Divisions could choose to work collaboratively with other divisions in their region. The fund is meant to give divisions options that best suit their particular needs and local communities.

Birdwatching Close Up –Chincoteague Island, Va
Photo by Lis Heras

POLICY RECOMMENDATIONS

\$600,000 per year in competitive grants to be managed by the Department of Conservation and Recreation Office of Environmental Education to support the development or implementation of school district environmental literacy plans, including stipends for teacher professional development or environmental literacy planning and coordination.



EXECUTIVE SUMMARIES & CONTACT INFORMATION

LEVERAGING FEDERAL FUNDING FOR THE COMMONWEALTH

There are incredible funding opportunities at the federal level that the state can leverage to meet our conservation and environmental goals. Our Partners share some of the biggest opportunities for the Commonwealth to consider to leverage.

VIRGINIA CONSERVATION BUDGET RECOMMENDATIONS

From the treasured Chesapeake to the majestic Appalachian Ridge, with the fertile Coastal Plain and Piedmont between, Virginia's natural resources sustain thriving communities. But these resources — still recovering from decades of pollution — face the extraordinary task of withstanding climate change while meeting the needs of Virginians. Fortunately, many of the actions we take to restore our waterways and revive our natural landscapes will reduce carbon pollution and help mitigate some of the worst impacts of climate change: rising temperatures and rising water. Strong, reliable investments to restore our natural resources will ensure that Virginians emerge healthy and whole from the challenges ahead.

CONSERVATION FUNDING

VIRGINIA CONSERVATION NETWORK PROGRAM LEAD

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LEVERAGING FEDERAL FUNDING FOR THE COMMONWEALTH

CONSERVATION FUNDING

Westmoreland, Va
Photo by Lucas Manweiler



EXECUTIVE SUMMARY

There is an unprecedented amount of funding available at the federal level that the state should leverage to meet our conservation and environmental goals. Funds will be distributed in different ways and through multiple different channels. Some funding has already started to flow and some grant programs haven't opened up yet. The following resources are meant to highlight some of the biggest opportunities for the Commonwealth to utilize.

BIPARTISAN INFRASTRUCTURE LAW

The Infrastructure Investments and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law, infused historic levels of federal dollars towards clean transportation and charging infrastructure as well as funding to strengthen the nation's drinking, storm, and wastewater systems.

In addition to the new programs created through the IRA, historic funding has been infused into many existing programs for Chesapeake Bay cleanup, land conservation, resilience, wildlife crossings, and more. Throughout portions of the Briefing Book, federal programs are highlighted that can help achieve specific environmental goals.

INFLATION REDUCTION ACT

The Inflation Reduction Act (IRA), signed into law in August 2022, established investments through grant programs and tax credits in the clean energy economy, many of which may be leveraged by state and local governments. Opportunities include investments in solar, wind, energy efficiency, electric vehicles, and other technologies that reduce our dependence on carbon-intensive infrastructure. In addition, the IRA established a direct pay program providing the opportunity for governments to receive the value of clean energy tax credits as cash payments.

A comprehensive tracker of the opportunities available through the IRA is maintained by the Environmental Defense Fund and can be found at <https://iratracker.org/>.

VIRGINIA CONSERVATION NETWORK RESOURCE HUB

To learn more about federal funding opportunities, visit the VCN Resource Hub: Opportunities for State & Local Governments at <https://www.vcnva.org/federal-funding>.

VIRGINIA CONSERVATION BUDGET RECOMMENDATIONS

CONSERVATION FUNDING

EXECUTIVE SUMMARY

From the treasured Chesapeake to the majestic Appalachian Ridge, with the fertile Coastal Plain and Piedmont between, Virginia's natural resources sustain thriving communities. But these resources — still recovering from decades of pollution — face the extraordinary task of withstanding climate change while meeting the needs of Virginians. Fortunately, Virginia has many programs in place to restore our waterways, revive our natural landscapes, reduce carbon pollution, and mitigate some of the worst impacts of climate change: rising temperatures and rising water.

By fully funding Virginia's natural resources programs and the agencies that manage them, we can make significant progress toward our pressing commitments to restored waterways, healthier landscapes, and resilient communities. All state conservation agencies should have the staff and resources necessary to execute their mission and consider the following specific funding needs identified throughout Our Common Agenda and outlined below.

OFFICE OF RESILIENCE (PROPOSED)

- Authorize and empower a standalone Chief Resilience Officer and no less than six FTEs to facilitate interagency collaboration and leverage resources, and identify resilience coordinators within agencies (pg 25)

VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

- \$5M per year for the Virginia Farmland Preservation Fund (pg 33, 35)
- \$1M per year for the Governor's Agriculture and Forestry Industry Development Fund infrastructure program (pg 35)
- Support additional staff and bolster professional resources available from the Office of the Attorney General and Department of General Services (pg 33)
- \$500,000 per year through the Office of Farmland Preservation to help localities develop PDR ordinances, advise on best zoning practices for preserving farmland, consider equity in ranking projects that get funded, and provide training and technical assistance to enhance monitoring and enforcement. (pg 35)

VIRGINIA DEPARTMENT OF ENERGY

- Study the impacts of data center development (pg 57, 105)
- \$35M each year for the Virginia Brownfield and Coal Mine Renewable Energy Grant Program (pg 59, 99)
- \$40M each year for the existing but unfunded EV Rebate Program (pg 65)
- Establish an e-bike point-of-sale rebate (pg 81)
- Create a dedicated source of funding for charging infrastructure in rural and low-income localities (pg 65)
- Establish a fund of 200K each year to cover the cost of low-to-moderate-income electricians to take the Electric Vehicle Infrastructure Training Program. (pg 65)

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

- Continue supporting the facility upgrade deadlines for the Enhanced Nutrient Removal Certainty Program by fully funding state grants for wastewater treatment upgrades as identified by the Needs Assessment. (pg 9)
- Maintain state funding to localities remediating aging CSO systems (pg 9)
- Include a Virginia Department of Health budget line item for harmful algae bloom testing and identification for non-tidal waterways and a DEQ budget line item to collect water samples for the VDH testing. (pg 11)
- Provide sufficient funding to DEQ to identify and eliminate potential pathways for PFAS contamination, which include wastewater discharges, land-applied sewage sludge biosolids, and landfill leachate, and to manage associated data. (pg 19)
- Increase funding for DEQ, VMRC, and local wetlands boards to enable the agencies to delineate wetlands, provide quality-control reviews of third-party delineations, and effectively implement wetlands permitting programs. (pg 27)
- Fund a study through DEQ and VIMS on the cumulative impacts of existing and proposed permitted and non-permitted surface water withdrawal intakes in the Rappahannock, York, and James River Systems on the mortality of fish larvae and eggs (pg 51)
- Study the impacts of data center development (pg 57, 105)
- 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. (pg 59)

VIRGINIA DEPARTMENT OF CONSERVATION & RECREATION

- \$80M each year the Stormwater Local Assistance Fund (pg 5)
- \$4M each year for the Virginia Conservation Assistance Program (pg 5)
- At least \$250M over the biennium for the Virginia Agricultural Cost-Share Program (pg 7)
- Provide sufficient and stable funding for technical assistance by Soil and Water Conservation Districts (pg 7)
- Support additional financial incentives for long-term conservation practices like stream exclusion fencing and riparian buffers that are critical to meeting the requirements of the Watershed Implementation Plan (pg 7)
- No less than \$200 million in general funds to the Community Flood Preparedness Fund (CFPF) (pg 25)
- \$90M per year to the Land Preservation Tax Credit (pg 33)
- \$30M per year for the Virginia Land Conservation Foundation (pg 33, 37)
- Support additional staff and bolster professional resources available from the Office of the Attorney General and Department of General Services (pg 33)
- \$57M per year to support essential staffing, programs, and backlog of maintenance issues. (pg 43)
- Establish a \$1M, 50-50 matching grant program to encourage localities to invest in capital improvement projects or invasive species management in local parks. (pg 43)
- \$1.5M in state-derived trail funding to match the Federal Recreational Trails Program grant program. (pg 83)
- \$600,000 per year in competitive grants to support the development or implementation of school district environmental literacy plans (pg 125)

VIRGINIA CONSERVATION BUDGET RECOMMENDATIONS

CONSERVATION FUNDING

Bird watching at sunset – Fairfax, Va
Photo by Harry Liu



VIRGINIA DEPARTMENT OF HEALTH

- Include a Virginia Department of Health budget line item for harmful algae bloom testing and identification for non-tidal waterways and a DEQ budget line item to collect water samples for the VDH testing (pg 11)

VIRGINIA DEPARTMENT OF HISTORIC RESOURCES

- \$5M per year for the Virginia Battlefield Preservation Fund (pg 33, 37)
- \$5M per year for the new Virginia BIPOC Historic Preservation Fund (pg 33, 37)

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

- Incentivize local governments to zone for multi-family housing and eliminate parking minimums within a half mile of all bus rapid transit, light-rail, and Metro routes in Virginia (pg 61)
- \$90.1M over the biennium for a statewide housing voucher pilot program (pg 61)

VIRGINIA DEPARTMENT OF FORESTRY

- Support additional staff and bolster professional resources available from the Office of the Attorney General and Department of General Services (pg 33)
- \$500,000 to fund a statewide tree canopy and forest health assessment (pg 47)

VIRGINIA DEPARTMENT OF RAIL & PUBLIC TRANSPORTATION

- Protect and increase existing statewide and regional transit funding including addressing WMATA's fiscal cliff. (pg 73)
- Protect and increase rail funding to support the implementation of the Transforming Rail in Virginia program. (pg 75)
- Fund rail station modernization and provide multimodal connections between stations and activity centers. (pg 75)

VIRGINIA DEPARTMENT OF TRANSPORTATION

- \$41M per year in recurring, state-derived VDOT funding for the Office of Trails to plan, construct, and maintain trails (pg 83)
- \$1M for grant match funds for low-income communities, communities of color, and smaller localities with populations under 25,000 for better connectivity to transportation and recreation (pg 83)
- Allocate 10% of the State's surplus funds in a given year to road safety infrastructure improvements projects. (pg 79)

VIRGINIA DEPARTMENT OF WILDLIFE RESOURCES

- Support additional staff and bolster professional resources available from the Office of the Attorney General and Department of General Services (pg 33)

VIRGINIA INSTITUTE OF MARINE SCIENCES

- Fund a comprehensive menhaden stock assessment (pg 51)
- Fund a study on the cumulative impacts of existing and proposed permitted and non-

- Fill the remaining full-time staff position in the Office of Trails outlined in its establishing legislation in 2022 (pg 83)
- Establish a State Trail Designation Program and direct resources toward marketing Virginia's trail systems. (pg 83)
- Create a Wildlife Corridor Grant Fund and appropriate \$5M over the biennium to attract additional private investments and help leverage the many new and expanded federal funding grants (pg 49)

VIRGINIA MARINE RESOURCES COMMISSION

- \$3M over the biennium for the Virginia Abandoned and Derelict Vessel Prevention and Removal Program (pg 15)

- permitted surface water withdrawal intakes in the Rappahannock, York, and James River Systems on the mortality of fish larvae and eggs (pg 51)

- Fund a 3-year pilot program from the General Fund for crab pot tagging (pg 51)

VIRGINIA OUTDOORS FOUNDATION

- \$5M per year to extend Virginia Outdoors Foundation's Get Outdoors program (GO) (pg 33 & 43)

- Support additional staff and bolster professional resources available from the Office of the Attorney General and Department of General Services (pg 33)

SECRETARIAT OF COMMERCE & TRADE

- \$500,000 to develop a scope of work and plan to study the economic impact and financial outcomes for outdoor recreation and related tourism (pg 41)



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VCN NETWORK PARTNERS

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Alliance for the Shenandoah Valley
 Appalachian Citizens' Law Center
 Blue Ridge Land Conservancy
 CASA
 Central Virginia Land Conservancy
 Climate Cabinet Education
 Community Climate Collaborative
 Environment Virginia
 Friends of the Rappahannock
 Generation 180
 James River Garden Club
 Lynnhaven River NOW

Natural Resources Defense Council
 Potomac Conservancy
 Powered by Facts
 Shenandoah National Park Trust
 Southern Virginia Land Conservancy
 The Electrification Coalition
 The Nature Conservancy in Virginia
 Valley Conservation Council
 Virginia Aquarium and Marine Science Center Foundation
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Allegheny-Blue Ridge Alliance
 Appalachian Trail Conservancy
 Appalachian Voices
 Audobon Society of Northern Virginia
 Bike Norfolk
 BlueGreen Alliance
 Blue Ridge PRISM
 Capital Region Land Conservancy
 Center for Progressive Reform
 Chesapeake Climate Action Network
 Clean Fairfax Council
 Clean Virginia Waterways
 Coalition for Smarter Growth
 East Coast Greenway Alliance
 Edith J Carrier Arboretum at JMU
 Faith Alliance for Climate Solutions
 Friends of the Lower Appomattox River
 Friends of the North Fork of the Shenandoah River

Keep Virginia Beautiful
 Loudon Wildlife Conservancy
 Nature Forward
 New River Land Trust
 New Virginia Majority
 Northern Virginia Conservation Trust
 Oceana
 Potomac Riverkeeper Network
 Preservation Virginia
 Prince William Conservation Alliance
 Richmond Audubon Society
 Rockfish Valley Foundation
 Scenic Virginia
 Shenandoah Valley Bicycle Coalition
 Sierra Club - Fall of the James Group
 Southern Appalachian Mountain Stewards
 SouthWings
 Spotswood Garden Club
 Trust for Public Land
 Tuckahoe Garden Club of

Westhampton
 Unitarian Universalist Church of Roanoke
 UVA Law School, Environmental & Regulatory Law Clinic
 Virginia Association of Soil & Water Conservation Districts
 Virginia Capital Trail Foundation
 Virginia Clinicians for Climate Action
 Virginia Interfaith Power & Light
 Virginia Living Museum
 Virginia Native Plant Society
 Virginia Organizing
 Virginia Urban Forest Council (TREES Virginia)
 Virginia's United Land Trusts
 Virginians for High Speed Rail
 Waterkeepers Chesapeake
 Wild Virginia
 Wildlands Network

DOGWOOD

Albemarle Garden Club
 Alliance for the Chesapeake Bay
 Ashland Garden Club
 Back Bay Restoration Foundation
 Bike Walk RVA
 Black Family Land Trust
 Blue Ridge Garden Club
 Boxwood Garden Club
 Bus Riders of Roanoke Advocacy Group
 Climate Action Alliance of the Valley
 Conservation Park of Virginia, Inc.
 Drive Electric RVA
 EcoAction Arlington
 Elders for Climate Action
 Friends of Accotink Creek
 Friends of Buckingham
 Friends of Dyke Marsh
 Friends of the Dahlgren Railroad Heritage Club
 Friends of the James River Park
 Friends of the Rivers of Virginia
 Garden Club of the Middle Peninsula
 Garden Club of Norfolk
 Garden Club of the Northern Neck
 Goose Creek Association
 Groundwork RVA
 Hands Across the Lake
 Henrico Conservation Action

Network
 Hunting Creek Garden Club
 Leesburg Garden Club
 Loudon Climate Project
 Mattaponi & Pamunkey Rivers Association
 Mill Mountain Garden Club
 Nelson County Garden Club
 New River Valley Bicycle Association
 Northern Virginia Families for Safe Streets
 Partnership for Smarter Growth
 Rappahannock League for Environmental Protection
 Rappahannock Valley Garden Club
 Rivanna Conservation Alliance
 Rockbridge Conservation
 RVA Rapid Transit
 RVA YIMBY
 Shenandoah Green
 Sierra Club - Blue Ridge Group
 Sierra Club - Chesapeake Bay Group
 Sierra Club - Great Falls Group
 Sierra Club - New River Valley Group
 Sierra Club - Piedmont Group
 Sierra Club - Potomac River Group
 Sierra Club - Potomac Outings Group

Sierra Club - Rappahannock Group
 Sierra Club - Roanoke Group
 Sierra Club - Shenandoah Group
 Sierra Club - York River Group
 Southside ReLeaf
 Surfrider Foundation - Virginia Chapter
 The Clinch Coalition
 The Wildlife Society - Virginia Chapter
 Tree Fredericksburg
 Virginia Association for Biological Farming
 Virginia Association for Environmental Educators
 Virginia Bicycling Federation
 Virginia Council of Trout Unlimited
 Virginia Green Travel Alliance
 Virginia Society of Ornithology
 Virginia Transit Association
 Virginia Wilderness Committee
 Washington Area Bicyclist Association
 Williamsburg Garden Club
 Winchester-Clarke Garden Club
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